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ORIGINAL ARTICLES.

CONDITIONS WHICH TEND TO RENDER THE ATMOSPHERE OF A LOCALITY ASEPTIC.[1]

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CONDITIONS which tend to free, or keep free, the air from pathogenic microörganisms, is the construction I put upon this subject that it may have medical, as well as surgical consideration.

In this consideration the subject is brought into proper limit by study of the question, What pathogenic microörganisms do or may exist in the air, first outside, second inside the walls of houses? The older writers derived the cause of most diseases, certainly of most infectious diseases, from the air. The vague term "telluric influence" constituted a kind of refuge for everything inexplicable, including syphilis. With the discovery of the infusoria by Leeuwenhoek, 1675, came the birth of the germ theory, to give rise to the wildest conceptions regarding the infection of the air. The air was supposed to swarm with germs of animal nature, something in the form of moths, armed often with beaks and claws, individual varieties of which produced individual diseases. It was seriously proposed in the seventeenth century to drive them away during an epidemic by the noise of trumpets and the thunder of cannon, just as the people of our day, as much as in the days of the Athenian plague, attempt to frighten them with cannon or burn them with bonfires in public squares. Less fantastic, though nearly as extravagant, was the view that the myriad motes of the sunbeam were germs or carriers of germs of disease.

The natural reaction which dissipated for a time all belief in a *contagium vivum* did not detract from the air as the chief element in the production of infectious diseases. For telluric influences and swarms of animals were substituted electric currents, ozone proportions, volatile emanations, vapors, gases, etc., views which are not without advocates in very recent times. Thus, Surgeon-General Hunter of the British Army is inclined to ascribe the cholera of India, in 1884, to the state of the air. "When the epidemic was at its height," he says in his second report, "on the 23d of July, a very peculiar condition of the atmosphere was observed; a yellowness of the air, somewhat of the nature of a fog; and it was quite calm. The sparrows, it was observed, had deserted the place and did not return until July 26th."

With the reintroduction of the germ theory upon the basis of a fact, to wit, the discovery of the spirilla of recurrent fever by Obermayer, 1873, and the general adoption of it which gradually followed the discovery of the tubercle bacillus by Koch, in 1882, the *rôle* of the air as a reservoir of microorganisms became more prominent than ever. Inasmuch as this disease could be imparted to animals by inhalation experiments; inasmuch as the germs of the disease from their principal localization are known to be inhaled; and inasmuch as the lungs constitute a vast absorbing surface exposed to the air at all times: it was not unnatural to believe that all the infections could be contained in and received from the air. The majority of teachers, writers, and clinicians believed and maintained that cholera, typhoid fever, and dysentery, for instance, entered the body through the avenue of the lungs.

So long as microscopy and chemistry constituted the sole means of examining the matter deposited from the air there could be obtained no precise knowledge, which became possible only with isolation of its particles and cultivation of them in various soils. These investigations, which are necessarily of recent date, have nevertheless already disclosed the fact that the air is, as a rule, when compared with the water, and the soil singularly free from pathogenic microörganisms. In fact, the only pathogenic microörganisms as yet definitely discovered and established by inoculation experiments are the ubiquitous staphylococcus pyogenes aureus and the streptococcus of erysipelas.

We are forced, therefore, to reach by elimination the diseases whose causes may exist in the outside air. We may exclude thus, first most, if not all, the eminently contagious diseases whose infectious principle is given off from the body directly or indirectly. Thus, it is not probable that smallpox, scarlet fever, measles, typhus fever, relapsing fever, aside from accidental direct contact with cases, are ever contracted in the open air. Cholera, typhoid fever, and dysentery, since the demonstration of their cause in drinking water, positively in the case of cholera and typhoid fever, presumptively in the case of dysentery, have lost all connection with the

[1] Read before the American Climatological Association, September 20, 1888.

atmosphere outside or inside. Should the meningococcus prove to be the cause of cerebro-spinal meningitis this disease will take its place with croupous pneumonia as a house disease, which is certainly the case with tuberculosis—no case of which was ever contracted in the open air. The tendency of our day is to regard acute articular rheumatism as a mycosis whose cause lies inside and not outside the walls of houses. Erysipelas, if not directly inoculated, falls upon wounded surfaces from bedding, clothing, house furniture, or walls from which its microörganisms have been directly scraped.

Diphtheria and croup stand on debatable ground, with the probabilities, on account of demonstrated infectiousness, strongly in favor of inside transmission. Yet it is not impossible that the diphtheria of fowls may be a source of infection of man. Since Stöhr has shown that the epithelium of normal tonsils presents openings, stigmata, or holes through which white blood-corpuscles pass constantly into the mouth the way is opened directly to the blood for the passage of outside germs.

The non-contagious infections, the group characterized as miasmatic diseases, the number of which grows gradually less as the causes of the infections become accurately determined, remain as the sole affections whose cause exists in the outside air in quantity sufficient to produce infection. Pre-eminent among these is the variety called bad air, malaria; and with the malarias may be associated influenza, hay fever, possibly pertussis and yellow fever, the last of which differs markedly from the rest in the fact that it must be introduced by a case of the disease. Hence it is not improbable that the determination of the exact cause of this disease will remove it from the miasms altogether. The infective principle lives, apparently, in the discharges, and is largely localized in the liver, but seems to require some transformation in bilge-water, bedding, or other soil, before it becomes actively infectious.

The statement is here superfluous, that the miasmatic diseases proper originate not in the air but in the soil, whence the cause is lifted and disseminated by currents of air.

Thus it is evident that the cause of but few, and these by no means the fatal diseases, actually exists in the outside air.

Direct examination of the air by even the first means employed, revealed the fact that the quantity or number of microörganisms in it varied greatly in different places. The air of the country is more free than that of the city in the proportion, according to Miquel, of 1092 to 9750 to the cubic metre, at Montsouris and Paris; or, according to Freudenreich, of 300 to 2400, about and in the city of Berne; the air of the city parks, according to Frankland, containing more microörganisms than that of the country about London. Microörganisms of all kinds are heavier than air, and, consequently, sink in a tranquil atmosphere, to abound most on the surface of the earth. Thus, Miquel counted in the air at the top of the Pantheon but 364 germs to the metre, and Tyndall and Pasteur found the air "optically pure"—that is, entirely free from microorganisms, at the top of the Alps. As a sample of the microörganisms of the air may be mentioned the results of an examination by the two Franklands, who found ten varieties of micrococci, twelve bacilli (among which was the hay bacillus and the bacillus prodigiosus), two ferments (one of which was the rosa-hefe), one mould, and yellow and orange sarcinæ. Hesse demonstrated the rapid gravitation of all microörganisms in air which was comparatively still, and observed the much more rapid gravitation of bacteria than of moulds and ferments. Petri shows thus that entirely different results are obtained in aspiration studies, which take the air above or in circulation, and plate studies, which collect it from the surface or at rest. In aspiration observations moulds and ferments abound, while in plates bacteria predominate. Hence, to obtain reliable results, both methods should be employed at once.

Marked diminution in the number of all microorganisms follows a rainfall which washes them down, or a tornado which sweeps them away, or a fall of snow which prevents their dissipation by the wind.

Absolute outside air is met at the surface of the earth only upon the high seas, and repeated observations, most accurately by Fischer on the steamer "Moltke," have shown that at a distance of 70 to 120 sea miles from shore, except in the presence of land winds, the air is nearly or absolutely pure. Thus, all microörganisms reaching absolute outside air are diluted to the infinite and lost.

Very different, in this regard, is the constitution of the air within the walls of houses. The number of microörganisms in the outside air sinks to insignificance in comparison with the air inside the habitations of man. Thus, in Miquel's own house there were in summer, in each cubic metre, 49,800, five times as many as in the street outside, and in winter, owing to diminished ventilation, 84,500, nearly ten times as many as in the street. Dennis found that not a single germ developed upon sterilized glycerine slides exposed off the bow of a ship; but five or six in ten days upon two slides exposed on the promenade deck under free ventilation of air, whereas upon one in the stateroom exposed for but fifteen minutes, there formed in eighteen hours five hundred points, or beginning colonies.

Microörganisms multiply in houses in proportion directly to the number of inhabitants, and inversely to the number of rooms or amount of inhabited space. Cornelly, Haldane, and Anderson published

tables showing the impurity of houses of one room compared with those of four or more. Disease stood in exact relation with the number of inhabitants. The mortality of tuberculosis is greater in houses of one and two than in those of three or more rooms. Neumann observed of the air at the hospital Moabit, examined by Hesse's method, that germs of all kinds were most numerous in the morning after sweeping and after the patients got out of bed—80 to 140 in 10 litres of air, when they gradually reduced in number until evening, at which time they numbered but 10 in 60 litres of air, the average number present in empty rooms. The gradual reduction of microörganisms in the course of the day in a still but peopled room is due partly to the subsidence of the heavier germs, but chiefly to the gradual incorporation of them into the lungs. Numerous observations by Tyndall, Grancher, Charin and Karth, have shown that the expired air is free from all microorganisms, which, introduced into the lungs by the act of inspiration, are retained upon the moist surfaces of the bronchi and air-cells. Thus, the introduction of a number of animals or men into a closed room, while poisoning the air with irrespirable gases, gradually frees it from microörganisms. This fact does not invalidate the observation just made and long ago established by Pasteur and many others that the number of microörganisms in a room corresponds with the number of inhabitants.: for movements of the inhabitants detach or set free the numerous microörganisms deposited upon the clothing, floor, and walls. One circumstance, therefore, which would tend to render the atmosphere of a closed apartment aseptic would be the introduction into it of a number of human beings, an experiment which we see made every day, but which has its results ruined by the subsequent multiplication of microorganisms in and from infected individuals.

No attempt has been made hitherto in this study of the infection of the air to separate the microorganisms of disease from those essential to life, the pathogenic from what we might call the genetic germs. In a general way, it is known to be true that an atmosphere infected with a great number of microörganisms is, or is liable to be contaminated by the largest number of the microörganisms of disease. But direct disclosure of pathogenic microörganisms, even in the air or on the walls of closed compartments, is very difficult, and has been accomplished positively only in the case of erysipelas and septicæmia. Kümmel claims to have found all kinds of microörganisms on the walls of his operating room. Emmerich found on the walls of the pathological institute of Munich the microörganisms of erysipelas, a discovery which was verified by cultivation and inoculation. Eiselsberg found deposited on slides placed on and under the beds of Billroth's wards the staphylococcus aureus, and later, in the same way, Fehleisen's streptococcus. Uffelmann found Friedländer's pneumonia bacillus in the air of a cellar under the hygienic institute at Rostock, and Cornel without doubt inoculated tuberculosis with sponge scrapings from headboards of beds occupied by phthisical patients.

Concerning the presence of microörganisms in general the wall studies of Esmarch, published in the *Zeitschrift für Hygiene*, vol. ii., constitute models for future investigation. Esmarch rubbed down definite spaces of wall paper with thoroughly sterilized sponge and cultivated the germs thus removed in various soils, finding thus, on an average, from various rooms 51 germs in 25 square centimetres, from which he computed 20,400 to the square metre; and to a whole room 979,200 a metre he thinks too small rather than too large. Any pathogenic germs in the air of the room must certainly constitute a certain percentage of this number and these germs, with the rest adhering but loosely to the walls, are liable to be detached at any time. Hence the danger of tearing off the paper from walls, whereby all kinds of microörganisms are set free in the rooms in efforts at disinfection which should be effected by means which incorporates everything in itself, as by rubbing down with bread to be subsequently burned. Such a method is now enforced by legal enactment in the city of Berlin. As was to have been expected, papers showing rough surface, as of silk or felt, offered lodgement to the greatest number of microörganisms. Painted walls with smooth surfaces contained less than smooth, unpainted papers. Closets but rarely opened always contained much fewer microörganisms, evidently because of less infection of the air and speedier gravitation. In all cases the number was greater nearer the floor.

Regarding specific microörganisms, model studies were made with tuberculosis by Cornet. These observations of Cornet, which extended over a period of two years and were first published in abstract (*auto-referat*) in the *Wiener medizinische Wochenschrift*, June 2, 1888, constitute the most remarkable contribution to the etiology of tuberculosis since the disclosure of the tubercle bacillus by Koch in 1882. The fact that all experiments hitherto had failed to discover tubercle bacilli in the air or in the walls of houses led the author to adopt the inoculation test with sponge scrapings from walls and beds of rooms occupied by phthisical patients. The sponges were, of course, previously thoroughly disinfected, and the animals inoculated, freshly bought and free from infection, were, if not dead from other disease, killed after the lapse of forty days—a period in which the disease remains confined to the peritoneum into which the injections were made.

The walls and headboards of beds, posterior surface uncontaminated by sputum or hands, of 21

rooms in 7 hospitals of Berlin occupied by phthisical patients were scraped in this way and 94 animals were inoculated with the scrapings. 15—*i. e.*, two-thirds, of the rooms furnished tuberculous matter. Of the 94 animals, 53 died of other diseases; of the remaining 42, killed after forty days, 20 were tuberculous, 22 sound. The frequency of tuberculosis among the insane led the author to examine the walls of 3 asylums, all of which furnished a virulent tuberculous virus. Dust removed in 11 cases from different places in the near vicinity of tuberculous patients was introduced into 33 animals, of which 16 died of intercurrent disease, 3 were found to be tuberculous, the remaining 14 healthy. 61 dust tests from the walls of houses of 53 private patients affected with tuberculosis, were introduced into 168 animals, of which 90 died soon after the injection, 34 were found tuberculous, the rest sound.

Control experiments from houses not inhabited by tuberculous patients, from surgical wards, operating rooms, crowded streets in Berlin, various public buildings, gave negative results.

Of 311 animals, in all, inoculated with dust from rooms inhabited by phthisical patients 167 died soon after infection, 59—*i. e.*, one-fifth of the whole number, were found tuberculous, and 85 were healthy. A room in a hotel occupied for six weeks by a phthisical actress, and a workshop occupied by a tailor who had directly communicated the disease to a fellow worker, were found infectious. *But in no case was the dust of the walls infectious where sputum cups or handkerchiefs were used exclusively to receive the expectorated matter*, notwithstanding the fact that such sputum often abounded in bacilli.

These observations, which singularly confirm the first statements of Koch, that the disease is chiefly spread by dried sputum, furnish convincing proof of the possibility of preventing tuberculosis pulmonum altogether, a possibility which should be seized upon with all the more avidity, in that the same author shows the futility of all specific treatment with the most varied agents.

From this brief and superficial survey of the constitution of the air the inference is fair that the contagious diseases are contracted not outside but inside the walls of houses, from microörganisms liberated from previous cases of disease, and circulating in the air or lying latent upon the walls and floors of houses, until detached by currents of air and inhaled into the bodies of susceptible subjects.

The proper disinfection of a room would mean, therefore, the removal of all carpets, rugs, curtains, upholstery, to be shaken in the open air and ventilated by exposure in it for several days; the subjection to steam heat of all bedding and clothing in any kind of contact with the sick; the rubbing down of walls with bread or bread-stuffs, which compose the bulk of the patent compounds for this purpose, two or three times successively, and the scrubbing of floors with solutions of corrosive sublimate, one part to one thousand parts of water; withal, the ventilation of the room day and night for several days, at least, to remove as much as possible germs still floating in the air; *in short, to bring as far as is possible the inside into the condition of the outside air by dilution, which is, after all, in the absence of fire, the essence of disinfection.*

But inasmuch as the extinction of a spark is easier than the suppression of a conflagration, the true method of making the air of a locality aseptic is to stamp out the spark. There is, as yet, nowhere in our country, at least, from lack of authority, any systematic attempt at the destruction of the germs of disease as they are produced. The discharges of typhoid fever, cholera, dysentery, yellow fever, are turned into sewers or scattered over soils with the same indifference as in the days when bacteriology was unknown, and with total disregard of its discoveries. Smallpox, which needs it least, meets with more attention from health authorities than scarlet fever, which is more fatal than cholera. Let it be mentioned, in passing, that but a single soldier in the whole army of Prussia has died of smallpox in the last thirteen years. Tuberculosis, which is now believed to be always acquired, and which destroys two-sevenths of mankind, meets with no check at all. The fear of "taking cold," by shutting out all ventilation, is largely responsible for the concentration of pathogenic microörganisms in sick rooms and the consequent dissemination of contagious disease.

Conditions which tend to render the atmosphere of a locality aseptic. Let us consider the subject from the standpoint of a place selected for the habitation of man and erect a house which is to remain, as far as possible, aseptic. It will stand facing the sun on a dry soil in a wide, clean, amply sewered, substantially paved street, over a deep, thoroughly ventilated and lighted cellar. The floor of the cellar will be cemented, the walls and ceiling plastered and thickly whitewashed with lime every year, that the house may not act as a chimney to draw up into its chambers microörganisms from the earth. Doors and windows, some of which extend from floor to ceiling, will be as abundant as circumstances permit, and will be adjusted to secure, as much as may be, thorough currents of air. The outside walls, if of wood or brick, will be kept thickly painted, not to shut out penetrating air, but for the sake of dryness. All inside walls will be plastered smooth, painted, and, however unæsthetic, varnished. Mantels will be of marble, slate, iron, or, if of wood, plain, and whether natural, painted or stained, varnished. Interior woodwork, including floors, will all show plain surfaces and be likewise treated. Movable rugs, which can be shaken daily, in the open air, not at doors or out of windows, where dust

is blown back into rooms, will cover the floors. White linen shades, which will soon show the necessity of washing, will protect the windows. All furniture will be plain, with cane seats, perhaps, but without upholstery. Mattresses will be covered with oiled silk; blankets, sheets, and spreads, no comforts or quilts, will constitute the bedding. Of plumbing, there shall be as little as is necessary, and all there is shall be exposed, as is the practice now. The inhabited rooms shall be heated only with open fires, the cellar and halls by radiated heat, or, better, by a hot-air furnace, which shall take its fresh air from above the top of the house and not from the cellar itself, or the surface of the earth, where microörganisms most abound. There will be "house cleaning" twice a year. Put into this house industrious, intelligent, and informed men and women—absolutely essential conditions, and as much will be done as at present may be done to prevent the dissemination from it of contagious disease, when an inmate brings it home from a septic house, hospital, sleeping-car, school-room, theatre, church, etc. A city of this kind, with a city government by such people, conditions which at present exist only in Utopia, would, least of all, permit to be introduced into it cases of infections like cholera and yellow fever, which must be imported from a distance on each invasion.

A PECULIAR ABSCESS, PUS FROM WHICH CONTAINED THE MICROCOCCUS TETRAGENUS.[1]

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A HEALTHY woman, eighteen years of age, entered the Buffalo General Hospital, October 18, 1887, with the left side of her face and lower jaw so much swollen that the mouth could not be opened. She gave the statement that she had had a very carious third lower, left molar tooth for some time; that she had consulted a dentist about it; that for some reason or other he had failed to remove it or relieve her, and that a week before she entered the hospital her face had begun to swell. On examination, a brawny, carbuncular phlegmon was found, extending from the left ear above to the mastoid muscle behind, the hyoid bone below and the middle of the chin in front. The induration was very firm, could scarcely be indented with the finger, and apparently gave but little pain, since even on questioning she made but little complaint of it. Her temperature was never above 100°, her pulse not materially disturbed, her bowels sluggish; except for the location of the swelling, which extended too high, I should have regarded it as an illustration of the infectious submaxillary angina of Ludwig. It had the same character of induration and much the same indolence of disposition.

I kept the part poulticed, and daily applied mercurial ointment, with the idea of hastening suppuration; but in this respect I was disappointed, since, after three weeks of diligent poulticing, only in three small points were any evidences of softening observed. All this time the front teeth could not be separated to exceed a quarter of an inch; her general condition remained about the same. After waiting until November 9th, I anæsthetized her in my clinic, forcibly pried apart her jaws, and, with great difficulty, succeeded in extracting, bit by bit, the offending tooth, which was a mere shell, its cavity being entirely carious and its substance quite fragile. After doing this, I made incisions into each of the points of softening, evacuated a small amount of pus and débris from each, and then, with a sharp spoon, scraped out as much of the surrounding tissue as seemed judicious. Her convalescence was slow; the induration about the parts persisted for a long time. It subsequently seemed advisable to open two or three small collections of pus, but she was not anæsthetized for this purpose again. She gradually recovered ability to open her mouth, and by the last of December the swelling and induration had subsided sufficiently to allow her to go home.

At the time of the operation I made several inoculations, on gelatine and agar jellies, of pus from the depots of softening. These were subsequently carefully cultivated and plated out, and were found to contain the two common forms of staphylococcus and the unusual micrococcus tetragenus. It is on account of the latter that I have reported this case. So far as I know, this has not been previously found to be pathogenic in man, although it is known that when mice or other small animals are inoculated with it experimentally, they die in three or four days. It is stated that this organism is occasionally found in human *saliva* and in sputum.

According to Koch, these germs are also found in tuberculous cavities, forming groups often surrounded with capsules. When an animal is inoculated with these, it dies in three or four days, with symptoms of septicæmia or pyæmia, and with metastatic abscesses in the spleen and kidneys. Large masses of the microbes are found, especially in the vessels and in the pulp of the spleen. Cornil and Babes have also found this germ in a syphilitic abscess, in groups and encapsulated, and in several metastatic (pyæmic) abscesses in the same case. It is not at all improbable that their occurrence in connection with syphilis was accidental. Aside from these instances, so far as I know, their presence has never been associated with any distinct pathological condition, and I am unaware that it has been considered in any sense, in man, a pyogenic organism. The path of infection in this case was undoubtedly through the diseased tooth. Whether the micrococcus tetragenus was the principal source of the infection, or even whether it is capable of so acting, I am unable to say; also, whether to it is due the fact that one may have induration and tardiness of resolution. Not having found any case in which

[1] Reported to the American Surgical Association, Sept. 18, 1888.

this organism had been supposed to have any pathogenic effect in man, I herewith report this one as of some pathological interest.

CANTATORY PARESIS.

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CANTATORY paresis is a variety of vocal disability experienced only in singing; the voice remaining good in all portions of the register utilized in ordinary conversation.

CLINICAL HISTORY.—After some unusual vocal effort or after some ordinary vocal effort during a period of debility, a singer's voice will begin to fail at some special note of the register. In some instances failure is limited to a single portion of the register. As determined by the researches of Langmaid (*The Medical Record*, May 26, 1883, p. 576) this will most likely occur at the ninth note in the scale in the key of C, for tenor and soprano voices; and at the seventh for base and contralto voices. In other instances all tones are uncertain above the one at which the break begins.

PATHOLOGY AND MORBID ANATOMY.—In some instances no pathological condition can be detected. In most cases there is a slight congestion of one or both vocal bands, which becomes more and more pronounced as the defective tone is approached in singing the scale from below upward. In marked instances there may be a lack of due longitudinal tension of the vocal bands, so that the glottic orifice remains elliptic in its entire extent and does not close posteriorly as the voice rises in pitch. This is due to failure in the proper contraction of the thyro-arytenoid, lateral crico-arytenoid, and crico-thyroid muscles.

It is possible that undue strain may stretch, or tear, or otherwise impair some of the delicate muscular fibrillæ of the thyro-arytenoid muscles, so as to interfere with the adjustment of the vocal bands necessary to produce the tones at which failure occurs. This failure throws undue effort upon other muscles in the endeavor to secure the tension necessary for cantation; and this effort fatigues the muscles and produces atony with irregularity in contraction, and consequently in phonal vibration of the vocal bands.

SYMPTOMATOLOGY.—There is a lack in the precision of the tone as the point of failure in the scale is reached; and this is sometimes associated with an involuntary slide or a tremble. Prolonged effort, as in singing, is quite fatiguing and sometimes painful. The conversational voice remains unimpaired.

ETIOLOGY.—The most frequent cause is overfatigue of the intrinsic muscles of phonation, from undue exercise in forced efforts beyond those required in the ordinary adjustments of the vocal bands for the natural emission of the tones made. This may be due to prolonged effort under ordinary conditions of health, or to customary efforts made during impaired conditions, whether physical or mental, or both. Faulty respiration in singing (Mandl, Paris, 1855) is, perhaps, the next most frequent cause.

DIAGNOSIS.—There is usually a lack of longitudinal tension of the vocal bands, and, in some instances, the bands are more or less undulatory in outline on their horizontal surfaces. The vocal bands are usually somewhat congested, in some instances with a pearlish translucence. In the absence of positive laryngoscopic evidence of atony, the character of the voice and the history of vocal fatigue remain the sole features in diagnosis.

PROGNOSIS.—The prognosis is good, provided that the voice be given proper rest and that suitable therapeutic measures be instituted. Should these precautions be neglected and the voice be continued in use, permanent injury may be sustained and the voice, for many months or even for a year or longer, may be rendered useless for singing purposes.

TREATMENT.—The first element in treatment is absolute rest of the singing voice and comparative rest of the conversational voice; that is to say, avoidance of all unnecessary use of the voice. The next point is attention to any impairment of the general health. Strychnine, quinine, and cocaine are the special medicinal agents most likely to be directly beneficial to the impaired muscles. Finally, systematic vocal exercises, limited to the unimpaired portion of the register, and daily percutaneous applications of currents of induction from one side of the larynx to the other will assist materially in overcoming the muscular atony, and thus hasten restoration of the vocal powers. Great care should be exercised in resuming prolonged vocal efforts for a year or two after apparent cure has been effected, lest the condition recur in an aggravated form.

In cases of moderate disability it is possible so to arrange the music as to avoid using the tones in which the voice shows impairment (Langmaid).

A CASE OF MARKED ŒDEMA OF THE LABIA UTERI DURING PARTURITION.

BY DANIEL B. D. BEAVER, M.D.,
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THE following case occurred eleven years ago, and is now placed upon record because of the extreme rarity of the class to which it belongs, and to show the ease with which gross errors in diagnosis are sometimes made under strange but otherwise simple conditions. During these eleven years I have not met a similar case in a pretty wide acquaintance with our periodical literature, nor did I find

the subject in an examination of a dozen or more text-books.

Mrs. B. had been in her third labor three hours when her physician called me, believing that he was confronted by a placenta prævia, although there had been no hemorrhage. Upon digital examination these curious conditions were found: The finger met in the orifice of the vagina a mass of tissue, somewhat cone-shaped, with the apex downward and base above, attached to and continuous with the vagina, and forming with it a cul-de-sac. It presented the doughy feel of œdematous tissue, which is not unlike that of the placenta. Upon sweeping the finger around the mass carefully a fissure was discovered, which divided the whole length of it into two very nearly equal parts, of which the inner surfaces were continuous with the cavity of the uterus. It was then clear that the mass was a growth from the os uteri or represented the labia of the os enormously thickened and elongated. Each of the lips was about two and a half inches long, three inches wide, and nearly half an inch thick at the base, from which they tapered both in thickness and width to a blunt point or edge, the whole shape bringing to mind strongly the figures and descriptions given of the elongated nymphæ of some of the South African tribes.

The external genitals were normal, and there was no œdema in any other part, but the case was further complicated by more common irregularities above the os uteri. The os was fully dilated, and the superior strait of the pelvis was engaged by a small fœtal head in the first position of the vertex, one arm and the funis. The patient was put in the knee-elbow position, the arm and cord pushed above the brim, and held there until the accession of the next contraction of the womb, when the head descended to the floor of the pelvis. Two more pains completed the delivery of the child without difficulty, and the woman recovered in the usual time.

There was no ascertainable cause for this anomalous appearance of the lips of the uterus. A bilateral rupture of the os and cervix in a preceding labor might suggest itself, but such a theory lacks the necessary support which a history of the symptoms of rupture would give it. She said she was in good health before this pregnancy, and has not shown any signs of uterine disorder since. It would be useless then to speculate further upon the causation.

MEDICAL PROGRESS.

The Sterilization of Milk at the Time of Milking.—Raudnitz, before the Central Organization of German Physicians in Bohemia, on July 15, stated that milk obtained from a cow three weeks before, and kept at the ordinary temperature of a room, remained as alkaline as immediately after milking, and was not to be distinguished by taste, odor, or appearance from freshly drawn milk. This circumstance, as well as the fact that repeated boiling, to which a sample was subjected, produced no change, bespeaks entire freedom from germs, without any bacteriological examination. The steam apparatus in the stalls for boiling the feed is also used to sterilize the glass receptacles furnished with air-tight rubber stoppers, so that there is no extra cost. A covered wooden tub with shelves of perforated tin plate receives the bottles. By means of a pipe steam is passed into the tube from below. Prior to milking, the udder of the cow, the milk-pail, and the hands of the milker are carefully cleansed. The milk is strained through clean linen directly from the pail into the sterilized bottles. Should a steam apparatus not be accessible, the bottles can be sterilized in a large, covered vessel. Upon the recommendation of the speaker, sterilized milk is so prepared and sold at Hostiwitz, near Prague, during this autumn. Since introducing among his patients milk thus sterilized, he has seen no cases of diarrhœa. Constipation is the rule upon weaning; in which case a small quantity of carbonate of magnesium or phosphate of sodium may be added.—*Wiener medizin. Presse*, Sept. 9, 1888.

Surgical Treatment of Peritonitis.—Leucke, of Strasburg, reports a case of peritonitis coming under his notice, treated by operative procedures, occurring in a youth of sixteen, who drank a glass of beer, and soon afterward felt a severe abdominal pain. He was admitted into hospital with all the signs of acute peritonitis; temperature 106°. The abdomen was opened the same evening, and half a litre of pus removed; it was then washed out with a weak sublimate solution, and a thick drainage-tube was placed in Douglas's pouch. The patient went on well for six weeks, when a subphrenic abscess developed on the right side, which soon broke into the pleural cavity. Resection of the seventh rib was performed, and drainage instituted with perfect success. There was doubtless a latent intestinal ulcer with first perforative peritonitis, and, subsequently, localized peritonitis, which broke through the pleura. Dr. Heuser, of Bremen, has lately operated in three cases of perforation of the vermiform appendix. Two of the operations were successful, but in the third there were metastatic abscesses in the liver, which soon caused death. In each case the abscess was sharply defined, though without extensive adhesions. Dr. Heuser thinks that many such cases which end fatally might be saved by surgical treatment. Professor Czerny, of Heidelberg, operated in perforative peritonitis in an obscure case; a large quantity of odorless gas escaped, and the stomach was found adherent to the liver and anterior abdominal wall. The intestines were normal. Unfortunately, no attempt was made to free the stomach, and the patient died on the fourth day. On *post-mortem* examination there was found a gastric ulcer and subphrenic peritonitis. An odorless gas in such cases indicates perforation of the stomach; a fetid gas intestinal perforation.—*British Medical Journal*, Sept. 15, 1888.

Electricity in Goitre.—In a case of goitre which had been treated for two years with no success, Weinbaum obtained a cure by use of the galvanic current. The electrodes were gold needles and were thrust into the sides of the tumor for several millimetres and a moderate current applied for fifteen minutes. A superficial eschar often formed at the negative pole, but this wholly dis-

appeared with the ending of the treatment, which included one hundred and five *séances*.

His second was more successful than the first, only fifty applications being necessary.—*Lyon Médical*, Sept. 1888.

Cocaine Anæsthesia in Surgical Practice.—JAFFÉ (*Aerztl. Practiker*, No. 16) recommends the more extended application of cocaine anæsthesia in surgical practice, in many cases obviating the use of chloroform, with its dangers, and rendering an assistant unnecessary. He uses a five per cent. solution to which he adds an antiseptic, according to the following formula:

℞.—Çocainæ hydrochlor. . . gr. xxiv.
Acid. carbolic. . . . gr. x.
Aquæ dest. . . . . f℥j.—M.

Of this, two or three divisions of a Pravaz syringe are injected at several points in a line corresponding to the course of the proposed incision. In four or five minutes the anæsthesia is usually complete, and the incision can be made without the consciousness of the patient. In operations upon the extremities the suggestion of Corning, that after the injection the part above be constricted by a rubber tube, is most practical. By this means, besides the artificial anæmia, a notable prolongation of the anæsthesia is secured. Ordinarily the influence lasts from twenty to thirty minutes. Should sensibility to pain return during the course of the operation, a few drops of cocaine are placed in the open wound, the operation is suspended for a few minutes and is then again proceeded with. After the removal of a tumor, the wound is disinfected in the usual manner and closed by a few stitches. The passage of the needle is felt by sensitive persons, but is not perceived as actual pain. Intoxication may arise, but is rare if some care is observed; still it is wise to have at hand a quantity of amyl nitrite, which has proved itself the most effective antidote. A list of operations, from the experience of the author and from that of others, in which cocaine anæsthesia proved satisfactory, follows. Among these were the removal of foreign growths, neoplasms of small and moderate size, incisions for paronychia, abscesses, furuncles and phlegmons, removal of ingrowing nails, tracheotomies and herniotomies.—*Münchener medicin. Wochenschr.*, Aug. 28, 1888.

Splenectomy.—A successful operation for the removal of a floating spleen has been performed in Trieste, by LIEBMAN. The patient was a woman, aged twenty-eight years, who in her third pregnancy noticed a hard round tumor in her abdomen toward the left side, below the level of the umbilicus. For some time the swelling remained stationary, but five months before she came under the care of Dr. Liebman, it began to grow rapidly and to cause great pain, especially when she moved about. She became quite unfit for work, and on November 24, 1887, was admitted into the Ospedale Civico. On examination, the liver and spleen appeared to be normal in size, the area of dulness corresponding to what was supposed to be the latter, extending in the left axillary line from the eighth to the tenth rib, whilst its vertical diameter seemed to be about seven centimetres. The abdomen contained a roundish but somewhat oblong tumor about the size of a small adult head, which appeared to rest on the upper margin of the pelvis. The mass, which was situated rather to the left of the middle line, was evidently intraperitoneal. Its surface was smooth, with a kind of notch in the middle. It was movable in every direction, and could be carried up to the margin of the ribs on the right side as well as on the left, but could not be pushed into the hypochondrium beyond that point. There was no adhesion to the abdominal wall in front. A distinct systolic *bruit* could be heard over various parts of the mass. The uterus was normal, but followed the tumor when the latter was pushed toward the right, but not when it was carried over to the left side or in an upward direction. The tumor could be freely handled and moved about without pain. There was no albumin in the urine, of which rather more than a litre was passed in the twenty-four hours, and there was no disturbance of digestion. A diagnosis of ovarian or mesenteric tumor was made, and laparotomy was determined on. On December 13th Dr. Liebman opened the abdominal cavity by a median incision eighteen centimetres in length, and divided the peritoneum, which was remarkably thin and transparent along the whole length of the wound. The ovaries were atrophied, and neither they nor the uterus had any connection with the tumor. On drawing the latter out of the abdomen it proved to be the spleen, enlarged to four times its natural size, whilst *in situ* its convex surface had been directed upward and forward, and was adherent for a great part of its extent to the omentum. The mesenteric vessels were tied and all the attachments of the tumor carefully divided between double ligatures, till only the pedicle (formed by the vessels. etc., entering the hilum), which was as thick as the little finger, remained. This was then divided into three bundles, each of which was tied separately, the end of the last ligature being finally passed round the whole for additional safety. The pedicle was further secured by a second ligature two centimetres and a half higher up; and, lastly, it was again tied close to the spleen. It was then divided between the two last-mentioned ligatures, and the spleen removed. The organ measured seventeen centimetres in length and ten in width, and weighed 600 grammes. Having satisfied himself that there was no blood in the peritoneal cavity, the operator closed the abdominal wound with seven deep sutures taking in the peritoneum, and five superficial ones. A Listerian dressing was applied. The patient rallied from the operation, and, with the exception of a good deal of tympanites, did well till the eighth day, when the sutures were removed, the wound having healed without suppuration. On the night of December 21st menstruation began. A good deal of pain accompanied the discharge, and there was some pyrexia. Soon extensive parametritis set in, which, however, yielded to general treatment. The patient remained weak and anæmic for some time, but finally left the hospital completely cured on March 25th.—*British Med. Journal*, September 15, 1888.

Destruction of Corns and Warts.—MASON recommends the following, a small portion of which is to be painted over the growth:

℞.—Lactic acid . . . . . 10 parts,
Salicylic acid . . . . . 10 "
Flexible collodion . . . . 80 " —M.
—*Les Nouveaux Remèdes*, Aug. 1888.

The Diuretic Action of Beer.—Mori (*Archiv f. Hygenie*, Bd. 7, S. 319) conducted a series of experiments in the Munich Institute of Hygiene to determine to what extent the use of beer affected the secretion of urine, to which ingredient the action was due and how this action was to be physiologically explained. After the author established the action of beer beyond a doubt, he endeavored to learn whether it was shared by other alcoholic liquors, and found that wine possessed a still more powerful diuretic influence. The use of carbonic acid water and of diluted wine spirit (four per cent.) increased the amount of urine for several hours, the increase with the latter being the most marked. The author hence concludes that it is the alcohol to which is due the increased diuresis of beer and other alcoholic liquors. As a result of experiments with the other constituents of beer he finds that the ingestion of a decoction of hops gives rise to an irritation of the urogenital apparatus (beer urethritis) which may be prevented by the simultaneous use of small quantities of nutmeg. At the conclusion of his work, the author endeavors to explain theoretically the alcoholic diuresis.—*Centralbl. f. die ges. Therap.*, August, 1888.

Paste for Toothache.—

Acid. arseniosi	2 parts.
Cocaine muriate	2 "
Menthol cryst.	0.5 part.

Glycerine q. s. to make a paste.

Introduce into the cavity of the aching tooth.—*Amer. Journ. of Pharm.*, August, 1888.

Sterilization of Surgical Instruments.—By means of experiments at the Hygienic Institute, at Berlin, Dr. H. Davidsohn (*Berlin. klin. Wochenschr.*, No. 35) has determined that the simplest and safest method of destroying germs contained in the blood or pus adhering to instruments, is to boil the latter at 212° F. for five minutes. Anthrax spores, as well as other pathogenic germs, such as tubercle bacilli, the micrococci of pus, etc., are by this means effectively destroyed. After an operation, the instruments are placed in cold water and the pus brushed off; water is passed through syringes and canulæ, which are left filled. The instruments are then boiled for five minutes in a covered water bath, at a temperature of 212° F. After removal, they are dried with a sterilized cloth. When they are to be employed again, they are boiled for five minutes, removed, and permitted to cool, and then used without immersion in a disinfecting fluid. The method is safe; it does not injure the instruments; it is convenient; it does not occupy much time; it is cheap; and it may be carried out in any private house. It should be observed that the boiling must be done in a covered vessel, as the water in an open vessel only reaches 212° F. at the bottom.—*Munchener medicin. Wochenschr.*, September 4, 1888.

Chloride of Ethylene.—M. Dubois has been experimenting with chloride of ethylene on dogs, and finds that it is an anæsthetic far superior to chloroform. He gave it by inhalation, and among the singular effects it produced was an opalescence of the cornea. Both corneæ assumed a bluish tint like thin porcelain, which gave a peculiar staring effect to the dog's eyes.

Contrary to expectation, no sloughing followed, but at the end of several months the cornea cleared up and regained a normal appearance.—*Gazette Hebdomad. de Med. et Chirurg.*, September 7, 1888.

The Vomiting of Pregnancy.—In connection with a case of obstinate vomiting in a pregnant woman who declined the induction of abortion, fatal in twenty-five days, Jaffé, of Frankfort (Volkmann's *Sammlung klinischer Vorträge*), discusses hyperemesis gravidarum. Three varieties of vomiting of pregnancy are to be distinguished. In the one, the vomiting occurs only in the morning, on an empty stomach. This is the most frequent, and the prognosis is good. In the second, which is not rare, the woman vomits in the morning and also during the day after every meal, though but a part of the food. The appetite is good, and the nutrition is not affected. With the occurrence of fœtal movements the disorder disappears. The third variety, the persistent vomiting, is rare. It begins with conception or later on. Whether primigravida or multigravida are the more often affected has not yet been determined. The etiology is unknown. To say that the affection is a reflex neurosis, brought about by irritation of the uterine nerves, is indefinite. The course of the disorder may be divided into three stages. In the first, all food is rejected, there is no fever, but there are thirst, epigastric pain, pytalism, frequently constipation, anæmia, and emaciation. In the second stage, there is moderate fever, the tongue is dry, and the epigastric pain persists. The breath is offensive, the urine is concentrated and contains albumin and casts, the results of a nephritis induced by inanition. The emaciation and debility increase. In the third stage, there is high fever, delirium sets in, the patient becomes soporose and dies. The diagnosis is easy. The distinction is to be made as to gastric disorders and neuroses. The prognosis is very dubious. It is influenced by the time at which the hyper-emesis occurs and by the life or death of the fœtus. Dietetic-medicinal treatment is useless, as a rule. Opium and bromides act best. When local disorders exist, the appropriate remedies are effective—for uterine displacements, reposition and pessaries, for inflammations, astringents. Should the dietetic-medicinal treatment fail, the pregnancy should be ended; but the third stage shall not have been reached, for in this the patient is hopelessly lost.—*Wiener medizin. Presse*, Sept. 9, 1888.

Pseudo-ulcers of the Tongue.—Velpeau has already described imaginary tumors of the female breast as a special class not to be operated upon; they consist in somewhat hard and sensitive lobules of the gland and intercostal neuralgias, with localized pains in the gland. Verneuil (*Bulletin de l'Académie de Médecine de Paris*, Séance du September, 1887) makes a similar classification of certain ulcers of the tongue: painfulness and a pseudo-ulcer depressing the spiritus of the patient are the factors. The author has seen five such cases, which resemble one another. They are pure lingual neuralgias; a true ulcer is not to be discovered; a psychical condition seems to predispose to the disease. Three causes may be assumed, the arthritic diathesis, false teeth, and tabes. The prognosis as to life is favorable, as to longevity unfavorable. Bromide of potassium and moral treatment are most effective.—*Medicin. Chirurg. Rundschau*, August 1.

THE MEDICAL NEWS.

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SATURDAY, OCTOBER 6, 1888.

INTRAPERITONEAL RUPTURE OF THE BLADDER.

SINCE the brilliantly successful cases of recovery after abdominal section for intraperitoneal rupture of the bladder by MacCormac and Holmes more than a year had elapsed until the July journals brought us reports of three new cases which all terminated in recovery. One is recorded by Mr. Halstrom (*Lancet*), another by Dr. H. H. Grant (*Journal Amer. Med. Assoc.*), and the third by Dr. A. Blum (*Archives gén. de Méd.*).

These cases, together with those already tabulated by Morton, and by Grant in his present paper, make a total of 16 cases operated upon. Of these, 7 have recovered and 9 have died, a mortality of fifty-six per cent. But if from this we deduct 8 fatal cases which were not operated upon until an average time of 28 hours after the receipt of injury the death-rate diminishes very greatly, whilst if, further, we deduct the ninth death, which was due to faulty suture of the bladder and subsequent intraperitoneal leakage, the percentage of deaths following operative relief becomes *nil.* Therefore, may we not justly conclude that such rupture of the bladder, provided that but a few hours have elapsed since the occurrence of injury, and that no serious concomitant accident, such as crush of the pelvis, is also present, should be amenable to surgical technique, such as has been described by MacCormac and Holmes, with a death-rate no higher than that of uncomplicated ovariotomy?

The technique has proved practically perfect from its incipiency, and no improvements upon it have even been suggested. But diagnosis, on the contrary, is sadly behind the perfection of the relieving measures. Many a man even yet dies for want of an unequivocal sign or series of signs or symptoms which will prove intraperitoneal rupture of the bladder, and, even granting the possession of such certain tests, many would even then continue to die because of the frequent absence of symptoms calling attention to the bladder as the seat of injury until it may have become too late to interfere, as violent peritonitis will have commenced or the patient has entered a state of fatal toxemia from absorption of urinary excreta and products.

These points are well exemplified in the report of Blum's case, which, by the way, is the first operation of the kind which has been reported from France. In abstract it is as follows: An intoxicated stoker was run over by a heavy wagon and very shortly afterward admitted to the Hospital Riboisière. The wheels had only passed over his thigh, but witnesses stated that the horse had stepped upon his abdomen. The bruised extremity constituted the patient's chief complaint, although he also had great desire to micturate but could not. A catheter was, therefore, introduced and normal quantities of clear urine were from time to time by that means withdrawn. No other abdominal symptoms were noted until he had been in the hospital nearly twenty-four hours, when signs of rapidly developing peritonitis were observed. At that time more clear urine was withdrawn by catheter. Upon the following day as the abdominal symptoms had become accentuated operation for *peritonitis* was undertaken. This was forty hours after the accident. A large quantity of clear fluid, having the appearances of urine flowed from the peritoneal cavity when it was opened and signs of acute peritonitis were there present. Not until now was rupture of the bladder even suspected, but upon examination of that organ a one inch tear was discovered in the upper portion of its wall a little to the left of the median line. There was no bloody infiltration of the edges of the bladder wound. Ten Lembert sutures were required to close the rent. The peritoneum was cleansed, the superficial wound closed, and a permanent drain left in the abdomen. Convalescence was uninterrupted and his recovery rapid, an unaccountable acute cystitis on the thirteenth day being the only drawback. This lasted for but a day or two and did not interrupt his progress.

As exemplified in the above and other cases, a formerly much-thought-of diagnostic sign has been proved of but little worth either as a positive or negative one. This is the presence or absence of sanguinolent urine, for in several reported cases clear urine has been repeatedly and in large quantities withdrawn from bladders which have afterward been found badly torn, whilst bloody urine is even more frequently withdrawn from an intact bladder. Likewise, it has been shown that absence of urine or the withdrawal of large amounts, are signs not much to be relied upon in forming a diagnosis. The question whether a drain shall be left in the abdominal cavity or not is still an undecided question, but we should be inclined to do so in any case if more than a few hours had passed since the accident or if any signs of peritonitis were present at the time of operation.

Two things we would suggest in forming a diagnosis of vesical rupture; first, always to *think of the possibility of injury of that viscus* in any serious or obscure accident; and second, to add to our present tests for its occurrence the *gentle introduction of hydrogen gas into the organ* and noting whether it escapes into and distends the general cavity of the peritoneum or simply distends the bladder itself. This experiment we have tried upon both male and female bladders before and after artificial rupture, and have met with such successful results as to justify the belief that it is a diagnostic sign of great promise. Possibly an extraperitoneal rent might make its presence known during such a test by giving rise to emphysema of the surrounding tissues.

YELLOW FEVER IN THE SOUTH.

It is a question of grave doubt whether the imposition of land quarantine against localities in which yellow fever prevails is justified by our knowledge of the nature and mode of propagation of this disease. The consensus of medical opinion is opposed to the contagiousness of yellow fever, but favors the view of its miasmatic origin. It is believed that the cause is a living miasm developed in a locality under favorable conditions of climate and soil, and those who suffer from the morbific agent do so only within the area of its generation and occupation. Under certain circumstances the peculiar emanation may be air-born, as is believed to have been the case at Bermuda, where successive outbreaks of yellow fever occurred without there being any other source from which it could have been derived. But then it does not give rise to the disease until after it undergoes further development in a congenial soil under favorable climatic condition. Or, the potential agent may be carried to distant places in the foul hold of a ship, which for the time becomes a locality engendering the disease but affecting only those who come within reach of the emanations from it. The spread of the disease at such places depends on whether the local conditions are favorable or not for the further development of the miasm.

There is not sufficient evidence to sustain the opinion that the importation of cases from fever-smitten localities to healthy places will give rise to outbreaks of the disease. Another characteristic of yellow fever is that it is chiefly developed in cities and towns which have maritime commerce, whether that be upon the seacoast or upon rivers. It is not by the traffic of the great thoroughfares of land, but by means of commerce carried on by ships, that it is diffused. It would seem, therefore, that strict sanitation broadly applied, particularly to vessels from localities where the disease prevails and to the localities themselves, and the removal of the healthy unacclimated population from the area of fever prevalence, are the best means of checking the spread of the disease.

Inland quarantine, which inflicts unnecessary hardships, paralyzes trade, and leads to demoralization, does not seem to be warranted by the facts at our command. The accounts which appear in the daily press descriptive of the plans being pursued in the South, show how mischievous demoralization may become when it acquires the ascendency over calm and judicious direction of scientific measures.

The ninth volume of the invaluable *Index Catalogue of the Library of the Surgeon-General's Office* has just appeared. It contains 1054 pages, and extends from "Medicine (popular)" to "Nywelt." It includes 13,151 author-titles, representing 6834 volumes, and 12,818 pamphlets, and 9999 subject-titles of separate books and pamphlets, and 29,120 titles of articles in periodicals. Like its predecessors, it has been compiled under the supervision of Surgeon John S. Billings, and its publication is one of the most gratifying evidences of the intelligent liberality of the National Government.

The President has directed Dr. George M. Sternberg, Surgeon, United States Army, to proceed to

Decatur, Ala., and to such other points in the infected districts of the Southern States as he may deem necessary to continue his scientific investigations of the yellow fever.

AMONG the new books announced for the autumn we notice *The Fatal Illness of Frederick the Noble*, by Sir Morell Mackenzie; *Lectures and Essays on Diseases of the Nervous System*, by Dr. J. S. Bristowe; on *The Artificial Feeding of Infants, and the Diseases which Arise from Faults of Diet in Early Life*, by Dr. W. B. Cheadle; *A Treatise on Gout*, by Sir Dyer Duckworth; *A Text-book of Human Anatomy*, by Dr. Macalister; a translation of von Jaksch's *Text-book of Clinical Diagnosis*, and a work by Mr. Lawson Tait on *The Diseases of Women and Abdominal Surgery*.

THE Members of the Municipal Chamber of Rio de Janeiro are raising a subscription for the purpose of sending a testimonial to Charcot and the Italian physicians who attended their Emperor.

AN Italian society for internal medicine will shortly be organized at Rome, for the furtherance of practical and scientific interests. Among the organizers are Baccelli, Cantani, Bozzolo, de Renzi, Cardarelli, and others. Evidently this new organization is a further outcome of the stimulus given by Leyden in the foundation of the Society for Internal Medicine. The first Congress will be held in Rome from the 15th to the 18th of October of this year. Among the papers already promised are: "Diabetes and its Treatment," by Cantani; "The Etiology and Therapy of Pneumonia," by Bozzolo and Maragliano; "The Treatment of Tuberculosis," by de Renzi and Riva; "Fever and Antipyretics," by Murri et Rossoni; "The Therapeutics of Cardiac Diseases," by Giovanni and Rummo.

AT the last Congress of Polish Physicians and Naturalists, upon the suggestion of Prof. Rydygier, a Society of Polish Surgeons was formed, the first meeting of which will be held next year, in connection with the opening of the surgical clinic recently erected at Cracow.

THE election of Prof. Gerhardt as Rector of the University of Berlin for 1888–9, has been confirmed by the Emperor.

BIEDERMANN, of Prague, will succeed Preyer at the University of Jena.

SOCIETY PROCEEDINGS.

ASSOCIATION OF AMERICAN PHYSICIANS.

Third Annual Meeting,
Held at Washington, September 18, 19, and 20, 1888.

(Specially reported for THE MEDICAL NEWS.)

SEPTEMBER 18TH.—MORNING SESSION.

The PRESIDENT, DR. WILLIAM H. DRAPER, of New York, called the Association to order and delivered

THE PRESIDENT'S ADDRESS.

He said: We are met as "friends in council," to present and compare the results of our individual experience, to discuss the questions which vex us, and to add something, if possible, to the enlargement of the science and the improvement of the art which constitute the aim and purpose of our lives. The Council has decreed that there must be a formal introduction to this function, and, instead of following the excellent example of my predecessors, and showing my respect for your precious time, I am compelled to subject you to an infliction from which I would gladly stay my hand.

From its beginning the medical art has been struggling to rid itself of superstitions and delusions. It has always been hampered by the tyranny of tradition, and in our day it is bewildered by the revelations of science. How to assimilate the discoveries in the etiology of disease, in physiology, in organic chemistry, and in psychology, and how to make them all contribute to more exact diagnosis and more rational therapeutics are the great problems which ever lie in the path and confront the conscience and the resources of the practical physician. As I have said, there is always the danger that science may become prematurely practical, and art, therefore, falsely scientific. It is well to remember that in one sense practical is always in advance of scientific medicine, and that in another it is always in its train. It is always in advance, because it is ever referring new problems to science to solve; it is in its train, because it has continually to test and digest the theorems which science suggests for their solution.

There is no better illustration of this statement than that which is afforded by the history of parasitism, the latest and most portentous contribution which science has made to the theory and practice of the healing art. The observations and speculations of practical physicians may be said to have led up to this discovery, and the revelations of scientific investigation have suggested the theorems which are now being tested by the practical physician. Already the applications of these theorems may be said to have reformed surgery, and to have given a new and hopeful direction to the rational treatment of disease, but it is not yet safe to affirm that the doctrine of parasitism may not be forging new errors in diagnosis, and beguiling us into dangerous paths in therapeutics.

Bacteriology indeed affords a curious and interesting example how, in the cycle of human knowledge, history repeats itself, and how ancient ideas present themselves clothed in new forms, but revealing the same essential nature. For what is the germ theory of disease but a concrete form of the abstract idea that disease is an entity, an enemy that invades and destroys, that must be contended with as a foe, and exorcised as a demon? It

is the old "deus ex machina" come back to us to explain the mystery of disease. This time he is, to be sure, tangible; we can distinguish the variety of his hosts, and count his battalions. He is no longer the "pestilence that walketh in darkness," and we are entering upon the crusade against him as if he were the cause of all our woes. He is verily become a germ of universal discord.

But not only has the germ theory revived, in more exact and tangible form, the ancient pathology; it has reinaugurated, as a natural and necessary sequence, experimental efforts to destroy the germ; and as, in the olden time, the attempts to exorcise the demon often led to the destruction of the victim, so, in these latter days, there is danger lest the war upon parasites should add new and worse perils to their hosts. It is still possible that we may not only exaggerate the influence of germs in the production of disease, but the necessity also of destroying them at all hazards, as the only principle involved in antagonizing their effects. We may well believe that we are on the eve of momentous changes in the healing art, resulting from discoveries in bacteriology, but these changes must come mainly from the independent and judicious application of these new ideas to the study and treatment of disease by the practical physician at the bedside.

Already the relations of bacteria to the pathology and treatment of fever furnish an illustration of the way in which clinical observation enlarges and complicates the problem which the pathologist has to solve. Until we know how microörganisms produce fever, whether by their irritation of nervous centres, or by the increased oxidation incident to their multiplication, or by the development of ptomaines, or in some other as yet unexplained way; until we know whether the fever they produce, however produced, is a salutary or a dangerous process, to be antagonized or let alone, we are really in no better position to treat fever rationally than we were before the etiological relation of bacteria to fever was suspected. Were it not that clinical observation and experience are thus continually complicating the problem and opposing new obstacles to the precepts of experimental pathology, a check would not so soon have been given to the indiscriminate use of antipyretics and parasiticides.

I have cited bacteriology as one illustration out of many which might be given, of the independent nature and special aim of scientific medicine, and to show how practical medicine must pursue, in dealing with scientific theorems, an equally independent method in testing and applying the precepts which these theorems suggest. And as scientific medicine has divided and specialized its work, in the many departments of science which contribute to our knowledge, so practical medicine, by the specialization of its aims and the division of its labor, illustrates the independent growth and progress of the medical art.

In the Congress which has gathered here at this time we have a significant acknowledgment of this fact, and an abundant confirmation, if any were needed, not simply of the mutual dependence of the science and art of medicine, but of their independent developments, science ever seeking to solve the problems in the path of art, and art determining for itself its own limits and possibilities.

DR. W. W. JOHNSTON, of Washington, then read a paper entitled,

GEOGRAPHICAL DISTRIBUTION OF TYPHOID FEVER IN THE UNITED STATES.

Typhoid fever, he said, is admitted to be a very generally distributed disease in the United States, but there is a great difference of opinion as to what constitutes typhoid fever—what symptoms are essential to its recognition. The difficulties lie in the fact that typhoid fever is frequently a very mild disease, with few of the characteristic symptoms; and that sometimes the illness is so slight that its true nature is not recognized until some sudden accident, as hemorrhage from the bowels or perforation, reveals its true nature. The difficulty is increased still more by the simultaneous occurrence, in malarial districts, of forms of fever which have some of the symptoms of typhoid and some of malarial fever. The question is to determine to which category such obscure or doubtful cases belong. In the present paper the effort was made, by a study of the prevailing forms of continued fever in different portions of the country, to determine the relative value of their symptoms, and to arrive at more precise rules of diagnosis. Such a study reveals the fact that the principal forms of fever recognized are: (1) true typical typhoid fever; (2) true typical malarial (remittent or bilious) fever; (3) adynamic malarial fever; (4) typho-malarial fever; (5) anomalous obscure forms appear as simple, continued fever, gastric fever, autumnal fever, etc. An analysis of the symptoms given by physicians in different parts of the country shows that great difference of opinion prevails as to the symptoms of these fevers; but such an analysis and comparison show also that true typical typhoid fever and true remittent fever are clearly defined; that "adynamic remittent fever" is a term which is used to designate a class of fevers consisting partly of remittent fevers, and partly of typhoid fever of a typical character. In regard to typho-malarial fever, no fixed ideas exist as to what symptoms indicate it; and so great is the confusion, and so hopeless the task of giving this disease an appropriate place, it is clear that much would be gained by abandoning the terms altogether. As regards the obscure forms mentioned, there is the tendency to class many of them under the head of mild or typical typhoid fever. But there is a great deal yet to be learned about these forms; and much progress can be made by a close study of the microörganisms found in the blood of these cases, and by a closer study and unbiassed appreciation of their symptoms.

DR. GEORGE M. STERNBERG, U. S. A., said that the subject is one that had engaged his serious attention at different times, and he quite agreed with Dr. Johnston in his conclusions with reference to typho-malarial fever. He thought that term should be abandoned, and from his own study and observation he had been led to think that at least a majority of such cases should be regarded as a mild form of typhoid. From his experience in the extreme west, where malarial fever does not appear, he has seen cases which were typical examples of typhoid. In reviewing the Army statistics collected during the war, he found some years since that typho-malarial fever had a very low mortality, and yet the prevailing idea was that it was typhoid fever with malarial complications, and it was difficult to understand how the complicated disease could

have a lower mortality than simple typhoid fever. His own view with regard to it was, that the line has been drawn between the mild and severe typhoid.

DR. OSLER, of Philadelphia, said that there was no doubt that from the extensive and widespread researches of Laveran we have been able to show, by the characteristic changes in the blood, a decided difference between malaria and typhoid fever. He spoke with considerable emphasis on this point, because these observations and researches have been repeated all over the world: in Algiers, in France, in Italy, and in Baltimore, Philadelphia, Boston, and New York in the United States, and recently in India by a most elaborate series of observations by Dr. Carter. The characteristic changes in malaria are as distinctly determined in the blood as are those of tuberculosis of the lungs in the sputa. He desired to impress upon the Association the extreme value of these observations of Laveran. A practical physician can no longer overlook them in discriminating between the different forms of fever.

DR. F. PEYRE PORCHER, of Charleston, said that it struck him as very remarkable that Dr. Johnston did not speak once of irritative fever. Dr. Wood, in his treatise, has devoted a whole chapter to its consideration. He thought gastric remittent fever was a distinct disease. Irritative fever exists on a mountain plateau and in cities.

DR. JAMES C. WILSON, of Philadelphia, said that Dr. Johnston's maps indicating the regional prevalence of typhoid fever fully conform to the views entertained by those physicians who have devoted themselves to the study of fevers in cities. In newly settled countries malarial fever prevails, and after a time typhoid and malaria exist side by side. In addition to the test which has been proposed by Dr. Osler, it seemed to him there is another which has scarcely received the attention it demands, and that is the etiological study The outbreak of a fever of a doubtful type in a village should, in all cases, be subjected to the etiological test, and if there prevail a number of such cases, the character of which can hardly be definitely recognized side by side with typical cases of enteric fever, the weight of opinion must be in the way of viewing these cases as types of that disease. Confusion in the diagnosis is not only dangerous in regard to the treatment, but, what is of much more consequence, it retards our knowledge of the fevers of this country.

DR. J. E. REEVES, of Chattanooga, said that more than a quarter of a century ago he had made clinical observations on the subject of enteric fever. He had been following up these observations, feeling more or less interested in the subject, and has gone through epidemics, some very mild, others malignant and exceedingly fatal. He firmly believed that typhoid fever is as communicable as any other of our infectious or contagious diseases. In the observations to which he alluded he tried to discover and run down the history of typhoid fever in Northwest Virginia. He discovered that the first case of the disease recognized in all that wild expanse of country could be traced directly to a previous case, which was brought from Athens, Ohio, in 1832. It is the general impression that, since the epidemic of cholera in 1832, typhoid fever has become the type of the fevers all along the elevated regions. He observed this fact, also, that in the low grounds or lower levels frequently typhoid fever exists with the malarial type of the disease, but as we ascend the hill country the pure, unmixed type prevails. He has been unable to discover the conditions which are to guide us in separating the two affections, and accordingly to direct the treatment. Whenever he found a broad, flabby, creamy tongue with indentations of the teeth, he found that quinine was not only permissible, but decidedly beneficial. By the use of a few doses he was enabled to eliminate the malarial element. Some seasons the disease is exceedingly mild, probably not one fatal case in twenty. At other times the disease is exceedingly malignant, and probably one out of four will die. It is a disease peculiar to youth and middle life. He has seen children not more than six months old having pure uncomplicated typhoid fever. He has seen it very rarely in the octogenarian. His conclusion is, therefore, that the typhoid fever may prevail anywhere the infection may be carried. Wherever it finds a lodging place we will there have a centre, from which the disease may spread over the entire country.

DR. JOHNSTON, in closing, said that he did not intend to present a complete study of the disease, but tried to show that the prevailing opinions in this country were based upon clinical observation. In the absence of the study of microörganisms great errors existed, and we must start upon a new basis.

DR. JAMES H. HUTCHINSON, of Philadelphia, then read a paper on

THE MANAGEMENT OF THE STAGE OF CONVALESCENCE IN TYPHOID FEVER.

He reviewed the question of diet in convalescence of typhoid; called attention to the exhausted and irritable condition of the patient; and favored the use of a light diet, as a rule, for the first ten days or so. Rest, gradual return to exercise, fresh air, and mental repose were advised; also care about exposure to cold and about constipation. The causes of relapses were discussed.

DR. J. E. REEVES said that he had hoped, from the title of the paper, that the author would allude to some of the accidents which frequently occur; without the slightest cause, during the third or fourth week, patients are sometimes suddenly seized with pain in the abdomen—in a word, with all the symptoms of perforation, and yet they recover. He had himself witnessed seven such examples. He had on four or five occasions seen patients, after they had been able to be out of doors for five or six days, seized with some hallucination, as that their lives were threatened, with permanent impairment of mind succeeding. He could furnish several examples of derangement of mind following typhoid fever without any perceptible cause. The fact is, the period of convalescence in typhoid fever is to him a most anxious one as regards the welfare of his patients.

DR. GEORGE L. PEABODY, of New York, desired a word of explanation with regard to the administration of solid food to convalescents in typhoid fever. He believed that there are a number of patients to whom the administration of solid food would not be judicious, viz., patients who have suffered from severe attacks of the disease. Patients who are anæmic and markedly depressed in their nervous systems are not, as a rule, clamorous for solid food. These patients, he thought, should not be given any solid food. On the other hand, there are patients who have had the ordinary series of

symptoms of typhoid fever, lasting three or four weeks, who oftentimes regain their appetite and desire for solid food days before the fever has left them. As a rule, he thought with such patients it was safe to begin with a small allowance of finely divided meat once or twice a day if they bear it well. He has done this several times where a recrudescence of the fever followed. He had in his experience met with a number of examples in which the administration of small amounts of solid food to patients, after the fever had left, was not only not harmful, but had been of aid; and he did not think he had ever seen any bad results follow the practice. The administration of an egg is just as likely to do harm as finely divided meat.

Another point he would like to refer to, and that is the subject of ulcers as the cause of diarrhœa, and on this point he must differ from Dr. Hutchinson. He did not believe the presence of ulcers bore any relation to the presence of diarrhœa. He had too often followed a case of typhoid fever to the autopsy table to agree with Dr. Hutchinson in this regard. Diarrhœa, he believed, was due to the catarrhal condition of the intestines, which may or may not be present in any given case. On this account it seemed to him, if there be no diarrhœa present and no specially profound depression, it is perfectly proper to administer solid food soon after the period of fever had ceased.

Dr. William Ord, of London, said that he came from the other side of the Atlantic, and would put forward his experience with that of Dr. Hutchinson. In regard to diet, he would agree with him, but he was also in agreement, from frequent experience, with Dr. Peabody. He had been naturally under the influence of his colleague, Murchison, within the past few years. On more than one occasion of late, he has had warning that one must be guided to a certain extent by the desire of the patient for food, and he has learned to give into this desire in general. He would quote a case which occurred a month or two ago. It was a girl in St. Thomas's Hospital, who had a severe attack of typhoid fever, and convalescence had set in. Then, without any existing condition to account for it, she began to have a large range of temperature, rising steadily in the evening and falling in the morning, till at the end of three days the range of temperature was from 3° to 5°. With this she became slightly delirious, and menaced her physician when he came around. Then, for two or three days more, the temperature was still higher with more disorder in her mind and craving for food. Now he tried the effect of giving her solid food. She was allowed at once boiled sole. Within twenty-four hours after taking the fish her temperature became normal for four hours, her delirium ceased, and from that time on she made an uninterrupted recovery. This is an instance of what we have to do in all cases of convalescence, viz., the study of the individual as well as of the fever.

With regard to diarrhœa, he would say there is a good deal of reason in Sir William Jenner's explanation that where diarrhœa is conspicuously present there is also a conspicuous presence of ulceration in the large intestine, where it is apt to be associated with extensive catarrh. Certainly, in epidemics which he had watched from year to year in London, the existence of these things has been very notable. Where there is much diarrhœa, there is considerable ulceration existing in the large intestine, which post-mortems have enabled us to verify. This bears also on the question of relapse. It was only ten or twelve years ago that many relapses were noticed in London. Up to that time they had the typical form of diarrhœa, then they had epidemics in which constipations were more marked, and then the trouble of relapses, by which he meant not recrudescence, but a complete second attack. When constipation existed, they used to give castor oil. After long study of these cases, he has come to the conclusion that the relapses were, in all probability, due to an infection from within; that long constipation had allowed time for germs to produce a second infection.

There are one or two points in relation to sequelæ he would like to ask Dr. Hutchinson. Very often, in long-continued cases of typhoid fever, we have periostitis and phlebitis, and he thought deep ulceration in the larynx was a common occurrence. He would like to know if these ulcers have been often observed in this country. Phlebitis is a thing that always puzzled him, and with regard to which he would like to have some information.

Dr. F. P. Kinnicutt, of New York, believed that relapses in typhoid fever were simply the result of re-infection and not of imprudence in diet. He believed we frequently see recrudescences of many of the symptoms from imprudence in diet, and it seemed to him that, although there are undoubtedly cases carefully selected in which solid food may be safely given and possibly with benefit, shortly after the disappearance of the fever, there are also cases in which solid food may work ruin to the patient. The advice, if given generally, would be abused, and he thought the rule mentioned by Dr. Hutchinson is the best one for the profession to follow—careful regulation of diet during the first ten days. There are many cases, however, which may be benefited by solid food after the disappearance of the fever.

Dr. F. C. Shattuck, of Boston, said that mention had been made of relapses, and also of recrudescence. He had noticed, during the stage of convalescence in typhoid fever, a persistent rise of temperature, which was neither recrudescence nor relapse, and which did not disappear until the patient got out. It seemed to be a bed fever. He is satisfied of the existence of this fever, and thought it important that we should recognize its existence, and not be alarmed by it. Certainly, it seemed to him the more we see of temperature, the more we think its ways are past finding out, and the less significance we are disposed to attach to it.

Dr. J. C. Wilson, of Philadelphia, said that the question of diet, during the early period of convalescence, is one of such importance, and such divergent views have been expressed here, that he ventured to ask Dr. Ord in regard to the single case he related, as to the diet of the patient prior to the mania he spoke of. Is it not possible that this patient's mania might have been due to defective nutrition or starvation?

Dr. Ord said that previous to the administration of solid food the patient had been given beef tea and milk, in the proportion of two parts of beef tea to one of milk, as freely as the patient could take it, and two days before the occurrence of the maniacal symptoms two eggs a day had been given in addition.

Dr. Hutchinson said that the sequelæ of typhoid fever are very frequent in this country, as shown by

Dr. Keen, of Philadelphia, in his Toner Lecture. For instance, there is an endarteritis and also an orchitis which are very common after typhoid fever. Dr. DaCosta some years ago called attention to the fact that a low grade of fever occurred in convalescence, which was cured by the patient's being ordered out of bed. On the other hand, a recrudescence will occur if the patient gets out of bed too soon. Recrudescences are also frequently due to masturbation, to which patients at this stage of the disease appear to be peculiarly liable. The sequelæ are very numerous and are all mentioned by Dr. Keen in the lecture previously referred to.

DR. GEORGE ROSS, of Montreal, then read a paper on

SOME FORMS OF PARALYSIS AFTER TYPHOID FEVER.

He first showed that while typhoid is a great strain on the nervous system, bringing to light its weaker points, and causing general exhaustion and anæmia, it produces sometimes nervous lesions in addition to these. These lesions consist in proliferation of connective tissue (interstitial neuritis) about the nerve trunks, usually, but also parenchymatous degenerations of the spinal cells and cerebral cortex. The results are paralysis, paraplegia, and sometimes loss of sensation. These are, however, usually recovered from. They are undoubtedly caused by the typhoid poison, not the fever exhaustion, or the anæmia. The signs of exhaustion of the nervous system are constant, and generally in proportion to the severity of the fever. The nervous phenomena are almost invariably both motor and sensory. The variety of forms taken is very great, though mainly the nervous injury is manifested by pains, areas of increased cutaneous sensibility, and paralysis.

DR. ORD said that there were some things in the paper which interested him very much. He could not say that he had seen many of these cases of peripheral neuritis. They are rare in his practice. So also he would say that paraplegia, dependent upon other causes than peripheral neuritis, is rare. He had observed indications of cerebral weakness, long-continued imbecility, remarkably protracted silence, and difficulty of articulation. He had seen cases after a very severe attack, in which there had been a long period of comparative uneasiness, in which the patient had spoken at the rate of a word every two or three seconds; and in more than one case he had seen a patient come out of a condition of uneasiness, be unable to speak at all, and recover the power of speech only after several days. In one case in a marked degree he found the patient unable to speak at first, and that he had in fact lost the faculty of remembering words and had to learn to speak over again. This was more apt to occur in young children from seven to eight years of age, and in one case he had seen the process of learning to speak had to be recommenced and developed as originally. He thought all these changes were rather due to changes in the central nervous system than in the periphery; also to inflammatory changes penetrating the tissues. He found it convenient in dealing with these and other sequelæ, as well as the complications of enteric fever, to classify them in his own mind. He has been accustomed to classify them, first under the head of complications which were, so to speak, inherent in this particular kind of fever, and probably those forms of neuritis and cerebral weaknesses are among the characteristic weaknesses. Then he should take those belonging to fever in general, and those complications and sequelæ which are accidental and to a large degree personal. It had been noted by one of the speakers that typhoid fever probably awakens latent mischief in those cases which are followed by phthisis. He thought there was good reason to believe that it has the general power of arousing existing mischief, which was up to the time veiled. In people of rheumatic tendency, we will find it awakening a rheumatic condition. It seems to have the quality of bringing out things which were masked and hidden before.

DR. FRANCIS MINOT, of Boston, said that one idea which struck him on hearing Dr. Ross's paper read, was the possibility of these different sequelæ of typhoid fever being caused by more than one germ entering the system. There are certain diseases, we know, which apparently have the same microbe; as, for instance, pneumonia and cerebro-spinal meningitis. The germ from the healthy human saliva will produce pneumonia in an animal, and in its tissues will be found the true pneumonic germ, and possibly some of those additions to disease may be caused by the same germ entering afterward. Among the sequelæ of typhoid fever are dumbness, which may be due to some other germ acting after the fever has run its course. He had seen a patient of eighteen who was unable to speak a single word after a severe attack of chorea.

DR. M. ALLEN STARR, of New York, said that it was pretty well admitted that neuritis may be due to infectious causes, and yet it seemed to him that a word of caution may be uttered in regard to ascribing all cases that follow typhoid to the influence of the typhoid germ. It seemed to him that if all the cases of neuritis following typhoid were due to the typhoid infection, neuritis would be much more frequent than it is. He had looked into the matter somewhat, and found that neuritis was a very infrequent sequel of typhoid fever. He had seen within the past few years cases of general peripheral neuritis following typhoid. In all cases they were alcoholic. We know that alcohol is one of the frequent exciting causes of multiple neuritis, and it is doubtful whether neuritis following typhoid is due to the typhoid germ, or to alcohol taken during the disease.

There is another class of cases to which Dr. Ross alluded, viz.: those in which the neuritis is due to one or two nerves being involved. Is it not possible in those cases that, instead of the neuritis being due to any infection, it is simply the result of pressure upon those nerves? He has had three cases lately under observation of distinct peripheral neuritis limited to one nerve, which were due to pressure of the body upon the bed while the patients lay in a comatose state. Could not the neuritis of typhoid fever be explained by this means? It seemed to him this question might be answered by some of the gentlemen present. He did not know but that Dr. Ross's cases belonged to that form of typhoid fever in which there were central changes in the cord. These cases must be, he thought, very carefully distinguished from those with marked signs of general multiple neuritis.

DR. OSLER, of Philadelphia, thought that those who had followed the pathological history of late paralysis, would bear him out in stating that writers are divided into two classes, one stating that the late palsy is due to a neuritis, and the other that it is due to a polio-myelitis. This is also true of arsenical poisoning. Both clinical

and experimental evidence seemed to him to agree upon the fact that we may have a toxic myelitis or a toxic neuritis. Now in this disease it is the same; we may have typhoid fever lighting up a myelitis or a neuritis.

DR. H. C. WOOD, of Philadelphia, remarked that those who had studied the course of lead palsy had had to deal with this same problem, finding either central or peripheral paralysis, myelitis, or neuritis; and never able to say why one or the other occurred in a given case.

DR. FRANCIS DELAFIELD, of New York, said that, although the lesions that have been described are not, after all, very common, yet they are such as belong to the disease. It seemed to him that the poisons of the severe infectious diseases behave in very much the same way as some of the mineral poisons; that is, they produce an acute degeneration of certain parts of the body, and with this acute degeneration there may or may not be added inflammatory changes, and the poisons of the infectious disease had the same capacity for producing acute inflammation that the mineral poisons have, but they differ as to the parts affected; thus, in diphtheria, it is the nerves that are affected; in typhoid fever we find the spleen swollen and changed; and so on, as we review the different diseases. That would seem to him the condition of things in typhoid fever, as regards the nervous system.

DR. ROSS, in conclusion, said that he had confined himself entirely, in his paper, to an account of those forms of paralysis which are of common occurrence, and avoided any reference to the cerebral manifestations occasionally met with in typhoid fever. He had seen cases which bore out the remarks made by Dr. Ord, and especially had he been interested in those severe forms of mental derangement which come on during convalescence, and last for an unexpected length of time. The possibility of alcoholic neuritis is universally admitted. He could not say the matter was looked into in the cases reported by him. That an alcoholic neuritis could be set up by partaking of small quantities of alcohol in an illness extending through eight or ten weeks was, he thought, unreasonable to suppose. As to the theory of pressure as a possible cause of neuritis, of course it was only in certain cases, such as those mentioned, that the theory could be entertained. Of course, there is, in the first place, the fact, alluded to by several speakers, of the existence of several forms of neuritis after the system has suffered from various febrile diseases, and another is a greater degree of severity of these forms of paralysis after the existence of pressure upon a nerve for a certain time. The fact that certain of these cases end in atrophy, and that some of them are actually permanent is, he thought, against the idea that a neuritis of such severity has been set up by pressure on a nerve. He thought we should endeavor to make a distinction between myelitis and neuritis. He had seen, in an epidemic a few years ago, a few cases of myelitis, and the prognosis in such is very bad. The disease progresses from bad to worse, and a fatal result may usually be looked for.

AFTERNOON SESSION.

DR. F. FORCHEIMER, of Cincinnati, read a paper on

FATTY HEART.

He concluded, from the examination of 122 cases of obesity of the heart, that its cause is a fat accumulation similar to one in any other part of the body. It may occur at any time of life. Occupation has a bearing, especially change of an active muscular occupation for an inactive life when middle age is passed. Thus, when a man of active outdoor habits retires from business shortly after forty years of age and takes on idle habits, it is liable to occur. Men suffer more than women, because they more often change their habits with the beginning of their later years. Alcohol, and particularly beer, have much to do in causing fatty heart; also tobacco, coffee, and tea; also violent exercises, and prolonged business or emotional troubles.

It was necessary to divide the condition as we meet with it into two forms: first, a surrounding of the heart by masses of fat, with accumulations within or upon the pericardium and between the various septa. This could sometimes be made out during life by an increased area of dulness; but this was difficult owing to the amount of subcutaneous fat usually present on the chest of the patient. We had to depend on autopsies in the main for our information. In the second class the myocardium itself was invaded by a diffused fatty infiltration of oily globules, and its function as a muscle was checked, the muscular fibres atrophied and became distorted and sometimes became degenerated. The latter, however, might be due to the general cause which had led to fatty deposition as well. At any rate, the myocardium became soft, flabby, and easily torn. The results of this were that sometimes hypertrophy, sometimes myocarditis or rupture supervened, but rarely any valvular lesions, also impaired circulation, venous stasis or obstruction.

Symptoms in the first class of cases were not many. The chief one was shortness of breath on exertion or excitement, resulting from sudden accumulation of blood, which was, in this condition, often excessive in amount, and from compression of the lung by the masses of fat around the heart. It came on slowly.

The second class of cases gave a history of sudden accession of heart trouble, dyspnœa at night and after meals, inability to sleep after retiring, angina or cardiac asthma; also, sometimes, apoplectic symptoms were present, due to an accompanying fatty change in the cerebral bloodvessels.

As for objective signs, a dilated heart would give the same objective signs as a fatty heart; we had to judge from all the other symptoms of the patient. Auscultatory percussion told something at times. The rhythm and sounds were to be studied; a bruit was sometimes present, due perhaps to an imperfect contraction, or to anæmia in some cases, or to nervous disturbances. After all, the guiding symptom was the disturbed heart-action taken in conjunction with the presence of obesity. If the parts were not fat, a diagnosis was impossible between fatty heart and several other morbid states.

His plan of treatment was Oertel's, which he did not think dangerous unless there were obstructions to the circulation in the heart, lungs, or elsewhere.

DR. JACOBI, of New York, said that the author had spoken of fatty heart in connection with general obesity only. He did not know whether he assumed that fatty heart can occur only in such conditions of general obesity. He thought if we take into consideration other cases of fatty degeneration of the heart in which there is no obesity at all, or only a certain amount of it, we may come to a better understanding of the nature of the con-

dition. Fatty degeneration of the heart is to be taken as one of the symptoms of malnutrition. This may be the result of an excess of fats and carbons; it may be the result of a congenital condition leading to the same result. He had a case in mind which he would narrate. A lady, aged thirty-two, had been anæmic all her life, being rather fat. She died with all the symptoms of pernicious anæmia. In her case there was fatty degeneration of the heart and it was very slightly, if at all, enlarged. The cause of the fatty degeneration was malnutrition, which was due to the smallness of all the arteries of the body. The aorta and all the large arteries were very much smaller than normal, but in other respects they were normal. He would say that this condition resulted in insufficient nutrition and consequent insufficient muscular power of the heart resulting in fatty degeneration. The heart muscle undergoes the same changes that every other muscle does. When all the arteries of the body are too small the arteries supplying the heart muscles are also too small. We have to look for fatty degeneration of the heart when we have to deal not only with a surplus but with a want of food.

DR. KINNICUTT said that only a few days ago a gentleman told him he had seen a number of cases treated under the personal supervision of Oertel, and he thought that Oertel had modified his original views.

DR. SHATTUCK said that these cases are not as common in this country as in Germany, and not as common in his section of this country as in parts where there are more Germans. His practical experience with such cases was very small. In reference to the results of Oertel's method of treatment, his remembrance of the report of the discussion which took place at the Wiesbaden Congress was that damage had resulted, under the observation of several of the speakers, which was of a serious nature. It seemed to him there is no question of serious dangers in the Oertel plan of treatment, but these dangers are connected with the difficulty of diagnosis. It seemed to him that disastrous results had followed Oertel's plan of treatment, where it was applied to cases to which it did not belong—that is, in which the diagnosis was obscure.

DR. JAMES TYSON, of Philadelphia, said in regard to the diagnosis of this condition of fatty degeneration, it occurred to him that true fatty degeneration is not associated with obesity as is fatty infiltration, but is rather the result of chronic Bright's, or chronic endocardial disease. So that the diagnosis from this standpoint resolves itself into this: given a case of obesity with the symptoms of weak heart and the absence of any one of these conditions, either acute or chronic, we must come to the conclusion that we have a fatty infiltration which might be safely treated by Oertel's method.

DR. H. C. WOOD said that he thought the Oertel plan of treatment when applied to a certain class of cases was of great use, but the application of it is always attended with danger if we have a case in which the symptoms are severe. In the *London Medical Record* there are reported cases of sudden death due to the Oertel plan of treatment. The theory of the Oertel method is that the heart is a muscle and must be strengthened by exercise like any other muscle that has been wasted by want of use. But the heart never suffers loss in this way, because it must always perform its function. If we have a heart in which the muscular fibres are very seriously involved, we may have a heart which will give out under the strain and the symptoms become intensified. He thought the great danger of the method lies largely in the impossibility of diagnosticating how far the morbid process has gone on in the particular case. The method should only be used under very careful supervision, and with the distinct understanding, on the part of the patient, that there is a certain amount of risk in it.

DR. KINNICUTT explained that Oertel himself was very far from merely prescribing free mountain climbing. On the contrary, he graduated the distances to be walked very carefully, even to the distance in feet. His study of the individual patient was minute. He prescribed the diet and the times of rest; in brief, he took every element of the case into account.

DR. WOOD rejoined that he knew the Oertel method called for a withdrawal of fluids from the diet, stopping the use of alcohol, and the giving of a light diet free from fats; but that its peculiar feature was the exercise, and that was apt to be overdone and carelessly employed.

DR. FORCHEIMER, in closing the discussion, said he would simply summarize the results. The objection urged by Prof. Wood is the one put forward by everyone. The idea of a patient with a weak heart climbing up to the top of a mountain three or four thousand feet high is something stupendous, and he would naturally expect him to drop down and die. In fact, Oertel does not wish anything like that done. He first lets his patients walk a certain distance, then further, and so on gradually increasing the distance in proportion to his capability. It was upon him he made the experiments published in his book. The principal thing Oertel insists upon, in order to give the heart less work, is to abstain from fluids; in the first place his diet consists in a mixed dietary with an absolute reduction in the quantity of food taken in the twenty-four hours. He allows no oils except in small quantities. No harm will come to patients with weak hearts who climb mountains according to Oertel's plan of treatment. On the contrary, the fat in the heart substance was actually made to disappear, and the muscular fibres gradually grew through increased use and took the place of the fat. The only objection to the method was, that certain observers had reported that harm had come from its use. These charges were not further specified, and we had no means of knowing that the cases on which it was based had been of the class amenable to Oertel's method or that his ideas had been accurately carried out in regard to either diet or a strict graduation of exercise.

(*To be concluded.*)

THE ASSOCIATION OF AMERICAN OBSTETRICIANS AND GYNECOLOGISTS.

First Annual Meeting,
Held at Washington, September 18, 19, and 20, 1888.

TUESDAY, SEPTEMBER 18TH.

(Specially reported for THE MEDICAL NEWS.)

DR. A. CORDES, of Geneva, Switzerland, forwarded through the Secretary a paper upon

THE TREATMENT OF ENDOMETRITIS BY FUMING NITRIC ACID.

He described three cases of chronic endometritis successfully treated by the injection of from one-half to one

drachm of this caustic. Precautions were always taken to neutralize the acid in the vagina by a saline solution.

DR. CORDES also reported four cases of

PUERPERAL ECLAMPSIA.

His treatment consisted of bromide of sodium in full doses; chloral hydrate per rectum; leeches behind the ears, and the use of the forceps in the interest of the child. Three of his four patients recovered. In a case in which he injected sodium bromide hypodermatically sloughing followed. In these cases he believes in as few vaginal examinations as possible, as they tend to produce convulsions.

DR. JOSEPH PRICE, of Philadelphia, in discussing the subject of eclampsia, described the case of a primigravida, aged thirty-eight, in whom treatment by hydragogue cathartics and bromides was begun early in pregnancy. The child was delivered by forceps, labor being induced at eight months, and mother and child lived.

DR. JOSEPH PRICE, of Philadelphia, then read a paper on

DRAINAGE IN ABDOMINAL AND PELVIC SURGERY.

He considered it important that the indications for drainage be as clearly defined in abdominal and pelvic as in other surgery. Regarding this, however, there is great diversity of opinion. He thought that if it can be shown that the drainage tube is not injurious, it should be frequently employed. Regarding the causation of the formation of fluid in the abdominal cavity he had seen an abundant exudate when but small adhesion of tissues was present. In a case seen recently there were extensive adhesions which were separated without the occurrence of oozing. A profuse discharge occurred subsequently, however, which was readily evacuated by the tube. Disease of the Fallopian tubes may occasion great effusion of fluid after an operation. In cases in which the tubes are not diseased and no adhesions are present he would not employ a drainage tube; he styles such cases simple cases. The cautery, at the time of operation, will often check oozing; the internal administration of salines in repeated doses is exceedingly useful to remove fluid effused after operation. Regarding damage caused by the drainage tube, he knew of no case in which it had been injurious. If properly cleaned, the tube is not a source of infection. There is also little danger that the tube will perforate or injure the peritoneum. To prevent omental adhesions he employs a packing of gauze or cotton-wick sterilized; this should be frequently renewed.

Dr. Price considered irrigation a valuable procedure in abdominal surgery; at the time of operation he retracts the tissues above and behind the uterus by three fingers forming a speculum; he then introduces water in a constant stream by siphon (Tait) or by a syringe. In this way he removes shreds which would otherwise remain. For irrigation he uses water only, sterilized by boiling; he believes antiseptic fluids to be injurious to the abdominal cavity, as they cause adhesions and subsequent pain. When the discharge is sweet, clean, and scant he removes the tube. He does not believe in drainage through the vagina. Hernia does not result from the tube, but from too long an incision; getting up too early, and neglecting to use a proper abdominal bandage.

DR. F. CUSHING, of San Francisco, forwarded a paper entitled

A CONTRIBUTION TO THE STUDY OF PELVIC ABSCESS,

which was read by the Secretary. He considered salpingitis and pyosalpinx the most frequent causes of this condition. Post-mortem examinations reveal the frequency of tubal inflammation. Gonorrhœa in the male is the most frequent cause. A case was cited in which direct infection from the husband was proved by the demonstration of the presence of the gonococcus on microscopic examination. Two cases of pelvic abscess post-partum were reported, one of which ruptured through the sacro-sciatic notch. Dr. Cushing prefers the aspirator as a means of diagnosis in ordinary cases; in complicated cases he performs laparotomy. The prognosis is ordinarily good. The treatment is evacuation; for pyosalpinx, abdominal section. A dilating trocar and soft rubber T drainage tube devised by the author were shown; the trocar resembled a uterine dilator, sharpened at the points. As an antiseptic hydronaphthol is preferred. When one evacuation by puncture does not suffice laparotomy must be done.

In the discussion of these papers, DR. EASTMAN, of Indianapolis, stated that he had sharpened the points of ordinary uterine dressing forceps, using them to puncture a suspected pelvic accumulation. He drains for the first suspicion of pus. He regards permanent abdominal drainage a misnomer, as nature closes any opening with lymph. He closes abdominal wounds with especial care to prevent hernia, and brings the linea alba together with all possible accuracy. In 51 abdominal sections he has had but 1 hernia. Pelvic drainage is often needed, but should be made under the guidance afforded by abdominal section.

DR. MONTGOMERY, of Philadelphia, thought a clear understanding of the indications for drainage essential. The general condition of a patient is a guide to the probable occurrence of effusion. Patients should be carefully examined before operation, and the condition of the emunctories noted. The care of a patient after operation may obviate the necessity for drainage; fluids should not be given freely; the dressings should be applied tightly. If a tube is used, a small one is preferable; it should be carefully cleansed, and dental sheet rubber (rubber dam) may be used about it to prevent the infiltration of fluid. Sinuses forming after the use of a tube frequently necessitate laparotomy. In a large sac, with abundant adhesions, drainage per vaginam is best.

DR. MARCY, of Boston, thought it of primary importance to remove the focus of suppuration, when drainage would not be needed. A drainage tube does not remove the source of the patient's danger, and the abdomen should be reopened if danger arises after operation. If drainage be employed, it should be *with gravity*, into Douglas's cul-de-sac, through a double tube.

DR. VANDER VEER, of Albany, instanced the success of the late Dr. Peaslee as an illustration of his belief in the importance of so operating that drainage is not needed. Abdominal section is safest. He avoids the use of a tube if possible. To prevent hernia he tightens the lowest stitch when the tube is removed. The incision is carefully closed; the drainage tube is fitted to the case.

DR. PRICE, in closing, said that he does not remove uterine appendages for pain, but for perceptible lesions. When cases are operated upon before extensive tissue changes have occurred, drainage is seldom needed; late and neglected cases require drainage. In operating especial attention should be given to removing all foci of disease in the broad ligaments. Forcible uterine dilatation, he had observed, is a frequent cause of pyosalpinx. He thought hernia is due to long incision; an incision admitting two fingers is ample. He had also seen hernia caused by the serre-nœud. In closing the abdomen he uses three or four sutures to the inch; including twice as much fascia (of the linea alba) as skin or peritoneum in his stitch. He had never seen a drainage tube, amid healthy intestines, occluded by lymph. He drains in about forty-five per cent. of his cases.

THURSDAY, SEPTEMBER 20TH.

DR. FRANKLIN TOWNSEND, of Albany, read a paper on the

PATHOLOGY OF EXTRAUTERINE PREGNANCY.

He believed that extrauterine fecundation is frequent. Ova may perish in the peritoneal cavity or become attached and live. A former inflammation in the peritoneum may afford a nidus for the growth of an ovum; pregnancy may occur at any portion of the genital tract. Tubal pregnancy is frequent; ovarian pregnancy is extremely rare. By primary abdominal pregnancy is understood the development of a fœtus to maturity in the abdomen; in secondary abdominal pregnancy the fœtus dies, a lithopædion resulting. In these cases the uterus often enlarges as in normal pregnancy; decidua forms, and many of the symptoms of abortion are present. A lithopædion was exhibited which had been carried in the abdomen of a woman for fifty years, the patient dying of another affection at seventy-six. In this case the tubes were normal, the uterus somewhat enlarged. After ineffectual labor pains the health of the patient declined, but became restored; menstruation was reëstablished and ceased normally; labor pains recurred at intervals during the patient's life.

DR. JOSEPH PRICE then read a paper upon

TUBAL PREGNANCY.

From a practical standpoint, these cases should be considered before rupture, at rupture, and after rupture of the tube. Before rupture the diagnosis is not positive; the symptoms present may be caused by various conditions. These cases are not generally seen until after rupture; patients are often anxious to conceive, which makes their subjective symptoms of little value. Amenorrhœa; pain severe, paroxysmal, long continued, caused by distention of the tube; continuous hemorrhage, with a discharge lighter in color than blood, and with the expulsion of the decidua vera, are symptoms present. The uterus is enlarged and displaced by a movable cystic mass. Rupture generally occurs at the twelfth or fourteenth week of pregnancy. Intraperitoneal rupture is attended by agonizing pain, shock, and subsequent peritonitis. Such an accident is not uncommon in multiparæ, and may be followed by death some time later. Dr. Formad, of Philadelphia, in the course of recent post-mortem examinations, had found eighteen such cases. Rupture may be attended by symptoms much less severe. The pain may resemble colic; hemorrhage may be inconsiderable. Peritonitis is usually absent; examination reveals a boggy mass in one broad ligament. The case may take a chronic course; the fœtus may survive and grow. In a case operated on by him at Camden, N. J., fœtal movements could be discovered on one side of the uterus. The sac in these cases is less movable than the gravid uterus; in the case already described the uterus was flattened by the pressure of the sac; when the sac was ruptured, it contracted normally. The cervix is displaced, and the pelvis is occupied by the fœtal sac. If the fœtus develops to term, spurious labor occurs; the fœtus may remain *in situ*.

DR. MONTGOMERY, of Philadelphia, in discussing the subject, thought a differential diagnosis was possible quite early. Different varieties of extrauterine pregnancy rupture at different periods. The symptoms of early rupture are those described by Dr. Price; he had seen two cases in which the usual signs of early pregnancy were present in which rupture was announced by collapse and pain: one recovered without laparotomy; the other recovered after operation. In the early stages, he believed electricity the best means of treatment; he does not approve of puncture; he would place one pole of a faradic current over the abdomen, and the other against the sac, in the vagina; ten or fifteen minutes' treatment for several successive days is generally sufficient. The subsequent growth of the placenta has not been proven. Electricity should be employed in the first four months only; should positive symptoms of rupture be present, laparotomy should be performed at once. After the fourth month he would destroy the life of the fœtus by electricity, and wait for the placental bloodvessels to become occluded. When the fœtus is viable he would operate in the interests of mother and child. In operating he would close the sac above, and drain through the dependent opening per vaginam.

DR. WATHEN, of Louisville, did not believe abdominal pregnancy possible without a previous peritoneal lesion. Tubal disease is the most frequent cause of extrauterine pregnancy. A diagnosis is rarely possible early, and cases cured by electricity are mistakes in diagnosis.

DR. BALDY, of Philadelphia, agreed with the preceding speaker. Electricity does not injure any pelvic tumor, but does not remove the sac, which is a source of danger. It occasionally produces rupture and death. Early diagnosis he thought impossible, and cited a case in which the usual signs of extrauterine pregnancy were present, but operation revealed an ovarian cyst.

DR. BYFORD, JR., of Chicago, thought that many cases rupture, but recover. Hæmatoma is often caused by extrauterine pregnancy. With care a diagnosis can often be made. He preferred electrical treatment in the first three months.

DR. MCMURTRIE, of Kentucky, described a case in which he operated, the child being in the abdomen, the membranes absorbed, and the cord shrivelled. The placenta was very large and decomposed. Very severe hemorrhage followed the attempt to detach and remove it; the patient died shortly after. He would advise waiting until the child had been dead for some time before operating.

DR. VANDER VEER closed the discussion. He believed that diagnosis is possible in some cases; in others not. The usual signs of pregnancy, with a new

growth behind or at the side of the uterus, are present, Those who use electricity report forty cases treated in America, with one death, before the fourth month of gestation. Early laparotomy, however, he considered the better means of treatment, as it removes the entire mass. After the fourth month he would wait until the child dies. Primary laparotomy is gaining ground, however, for these cases.

He reported two cases of neglected tubal pregnancy, followed by death from septic infection. He exhibited fœtal bones from a third case, in which the mother had conceived while carrying a dead fœtus, encysted near the rectum. He believed that Breisky's recent case, in which he removed the placenta, had shown that it should always be removed in such cases.

AMERICAN LARYNGOLOGICAL ASSOCIATION.

Tenth Annual Meeting,
Held at Washington, September 18, 19, and 20, 1888.

(Specially reported for THE MEDICAL NEWS.)

TUESDAY, SEPTEMBER 18TH.—AFTERNOON SESSION.

DR. CLINTON WAGNER, of New York, presented a paper on

RESIDENCE AT CERTAIN HIGH ALTITUDES AS A MEANS OF CURE FOR LARYNGEAL PHTHISIS.

He called attention to the fact that thirty-three per cent. of all cases of pulmonary consumption are in addition laryngeal, and proceeded to the discussion of the relative advantages of high altitudes, as represented by Davos-Platz and Colorado Springs, and lower altitudes, where the atmosphere is moist and warm. The objections to a high altitude depend upon the dryness of the air and the rapid atmospheric changes, but this may be overcome by instructing the patient to breathe through his nose, and by great care to avoid exposure. Dr. Wagner believes laryngeal phthisis is invariably secondary. He also reported four cases of this disease cured at Colorado Springs, but believes that climatological changes are of no value in this affection, provided the condition has passed from that of induration into ulceration. In the winter-time such patients in high climates should retire at sundown from the outside air.

DR. GLASGOW, of St. Louis, expressed the belief that high altitudes are harmful.

DR. SHIRLEY, of Detroit, thought that equally advantageous results are obtained simply by an ordinary change of air, as, for example, a visit to the seashore.

DR. JOHN N. MACKENZIE, of Baltimore, read a paper on

A HITHERTO UNDESCRIBED NEUROSIS OF THE AURAL APPARATUS CLOSELY ALLIED TO CORYZA SYMPATHETICA,

which, as he expressed it, resembles very closely what might be called "hay fever of the ear." In the one patient which he had seen the attacks have come on regularly every summer for twenty-three years, beginning soon after marriage while at the White Sulphur Springs, in Virginia. One of the chief symptoms is severe itching of the auditory canal, Eustachian tube, and throat. It always is unilateral during one season, but sometimes alternates in two successive seasons. He believes the condition to depend upon disorder of the sympathetic, particularly the spheno-palatine ganglion. In the discussion which followed, Dr. Shirley spoke of the great doubt which exists as to the real function of this group of cells, and expressed the opinion that this ganglion really has no vaso-motor action upon the throat.

DR. SAJOUS, of Philadelphia, spoke of a somewhat similar case under his care which was, however, secondary to nasal disorder.

DR. HARRISON ALLEN could not see why the Eustachian tube might not be affected in a similar manner to the nasal cavities by hay fever.

DR. MACKENZIE, in closing the discussion, quoted the results of Prevost, who, on stimulating the spheno-palatine ganglia, produced running of the nose and swelling of the mucous membrane.

DR. BRYSON DELAVAN followed with a paper entitled

FURTHER INVESTIGATIONS AS TO THE EXISTENCE OF A CORTICAL MOTOR CENTRE FOR THE HUMAN LARYNX,

and referred to a paper read by him during the Eighth International Medical Congress at Copenhagen. He believes that this centre exists in the region of Broca's third convolution, and cited the opinions of Landois and Garel, which supported this view. Garel saw a case of laryngeal palsy, with a lesion in this neighborhood; but in a case examined by Dr. Delavan no lesion could be found on macroscopical examination except marked atheroma of the bloodvessels. No microscopical sections have as yet been made.

WEDNESDAY, SEPTEMBER 19TH.—MORNING SESSION.

DR. JOHN O. ROE, of Rochester, read a paper on

INTERNAL ŒSOPHAGOTOMY, WITH THE REPORT OF SUCCESSFUL CASES.

He expressed the opinion that multiple incisions are preferable to dilatation for stricture; but this evidently was not the unanimous opinion of the rest of the Association, since the assertion provoked a considerable amount of discussion, in which opposite views were advanced. Among those taking part were Drs. Rice, of New York; Ingals, of Chicago; Langmaid, of Boston; Sajous, of Philadelphia; and Delavan, of New York. Dr. Rice, having advocated the employment of cocaine previous to the introduction of the œsophageal bougie, was criticised by Dr. Sajous, who thought such a measure fraught with danger, owing to the fact that the anæsthesia produced prevented the patient from aiding us in our direction of the instrument, and eliminated the useful symptom of pain. He also pointed out that if a soft spot existed near the growth, it was very readily punctured under such circumstances.

DR. BEVERLY ROBINSON, of New York, then read a paper on

DYSPEPSIA, AS REFLECTED IN THE MUCOUS MEMBRANE OF THE UPPER AIR-PASSAGES.

He stated that if catarrh of the upper air-passages has already appeared, the dyspepsia increases it to a very large extent, as the gases thrown off act as irritants, and the sour fluids, consisting largely of butyric acid and correlated compounds, also tend to make it worse. On the other hand, the dyspepsia may be the result of catarrh, and depend upon the fact that so much of the increased

secretion is swallowed as to disorder digestion and produce gastric irritation. The cure of the catarrh in these cases cures the dyspepsia. Another point which he thought might possess a causative action is, that the air passing through diseased air-passages may become so fetid as, when swallowed, to produce abnormal conditions.

DR. SHIRLEY, in discussing the question before the Society, thought that the constitutional condition of the patient is too often overlooked, and spoke highly of the value of exercise, diet, and other similar measures for the relief of such states. He also believed in the attention of the physician to the constitutional treatment as represented by drugs. He also thinks that the catarrh does not produce the dyspepsia so commonly as the dyspepsia produces the catarrh. Fresh air, and a large amount of outdoor exercise are extremely valuable.

DR. DALY, of Pittsburg, thought the two conditions balanced one another. He has given up the use of tonics, such as strychnia, and relies upon small doses of calomel once or twice a week, which he usually follows by a moderate dose of a fluid extract of senna.

DR. ROBINSON, in closing the discussion, said he had been very loath to speak so frequently before the Association upon this subject, as he had written of it in past years, but that he regarded it as being one of great importance, and thought it should receive much attention. He is of the opinion that, while drugs are not perhaps of as great value as some have thought, they are nevertheless much more useful than surgical interference so frequently resorted to, and he wished the Association to understand that he insisted upon this point most strongly. He has seen cases burned, cut, scraped, and snared, and fail to get well, when a few small points attended to from the standpoint of the general practitioner have produced a cure.

DR. HARRISON ALLEN, of Philadelphia, next read a valuable and exhaustive research on the

ANATOMY OF THE NASAL CHAMBERS,

in which he demonstrated several very interesting anatomical facts not generally well understood, both by means of skulls and wet preparations. The Association seemed much interested in the practical bearing of this paper.

DR. DELAVAN spoke of the great value of this line of study, and of how many surgeons operate without the anatomical or pathological knowledge which is so essential for success. He also mentioned the fact that in quite a number of skulls examined by him, deformity of the nasal chambers was the rule rather than the exception.

DR. WM. C. JARVIS, of New York, followed with a paper entitled

NOTES ON A CASE OF NASAL CARIES, COMPLICATED WITH MENINGITIS, SUCCESSFULLY TREATED BY MEANS OF THE SURGICAL DRILL.

The case was one of a man with a distinct specific history producing very severe nasal symptoms accompanied by caries of the bone and preceded by the complete destruction of the mucous membrane covering the parts. The pain was excessive and so constant that the patient had to be kept constantly under the influence of anodynes. There was also much headache, tinnitus aurium, with hyperæsthesia of the scalp. The secretion was excessively fetid and life to the patient was a misery. There were great emaciation, weakness, and inability to perform any of the ordinary business of life. The treatment consisted first in the administration of anodynes, morphia to relieve the pain, the use of large doses of iodide of potash, and the disinfection of the nasal chambers by the thorough circulation through them of antiseptic solutions. Notwithstanding these precautions, meningitis developed, and the case became so serious that Dr. Loomis, of New York, was called in consultation. The man's appearance at this time was so exceedingly feeble that the prognosis given was particularly unfavorable and death was looked forward to as imminent. At Dr. Loomis' suggestion, however, the amount of the iodide was increased from 20 to 60 grains three times a day. This was continued for some time, the man rapidly improved and soon recovered sufficiently to permit of operative procedures directed toward the alleviation of the local disease. This was accomplished by the employment of a special surgical drill, by means of which the dead bone was removed.

AFTERNOON SESSION.

DR. CLARENCE C. RICE, of New York, read a paper upon

ANTISEPTIC NASAL SURGERY.

He had come to discard tampons of antiseptic material, and the insufflation of antiseptics in powder, and relied chiefly on solutions, to be used by the patient in spray, from an atomizer. He conducted his operations under antiseptic precautions, and believed that he had obtained more speedy healing of tissues and freedom from untoward results in this way. He rarely had seen troublesome hemorrhage, but this was probably because he operated, removing rather less tissue than many. He usually kept his patient in his office for some time after operation; a cotton plug was inserted into the nostril, to cause coagulation which would extend to the point of operation and check bleeding; the application of cotton directly to denuded tissues he did not favor.

DR. HARRISON ALLEN, of Philadelphia, employed antiseptic precautions in nasal surgery, but had not observed any marked improvement in his results.

DR. CHARLES E. SAJOUS, of Philadelphia, had two cases in his practice before he employed antiseptics which were apparently septic infection; since employing antiseptics he has had no trouble.

DR. FRANK DONALDSON, of Baltimore, thought carbolic acid the best agent for promoting the healing of tissues after nasal operations.

DR. E. FLETCHER INGALS, of Chicago, prefers carbolic acid in about four per cent. solution. After operating he insufflates boric acid and iodoform into the nostril; to control hemorrhage he plugs the nose with strips of bichloride gauze soaked in a syrupy liquid composed of gallic, tannic, and carbolic acids, in glycerine; this plug he allows to remain from twelve to fifteen hours.

AMERICAN OPHTHALMOLOGICAL SOCIETY.

Special Meeting, held at Washington, September 18, 1888.

(Specially reported for THE MEDICAL NEWS.)

MORNING SESSION.

In absence of both the President and Vice-President, DR. HENRY W. WILLIAMS, of Boston, was called to the chair.

Dr. David Webster, of New York, read a paper on

TENOTOMIES FOR THE CORRECTION OF HETEROPHORIA, WITH RESULTS.

Of forty cases, he had operated on twenty-five but once, sixteen had been subjected to a second operation, and three had been previously operated on by other surgeons. In three tenotomy had been done on the inferior rectus, in seven on the superior, in nineteen on the external and in twenty-six on the internal rectus. The operation had been done by raising the centre of the tendon, at its insertion, with the forceps, snipping it with the scissors, and then, with or without a strabismus hook, dividing each way until in all cases the whole width of the tendon was divided. The eyes were now tested, sometimes showing no effect on the deviation; snips were made equally on both sides of the tendon until a sufficient effect was obtained. Slight over-correction was aimed at and usually attained. He had three times been, subsequently, compelled to diminish the effect, by readjustment of the divided tendon. All operations were done under cocaine. In a single case there was reason to regret the operation. Of four epileptics, none were cured; in one there was a temporary suspension of the fits, which subsequently returned; and one thought the fits were favorably modified. Two cases of chorea seemed benefited, though not cured. In three men suffering from attacks apparently allied to hysteria, the results were strikingly good. In most of the cases the operation was done for headache or other symptoms of muscular asthenopia. The conclusions he had reached were: No person should have tenotomy done for heterophoria alone without symptoms of strain due to it. Very slight degrees of tendency to deviation may require correction. All other methods of treatment should be tried before resort is had to operation. The operation should be done under cocaine, and the effect produced from time to time tested with prisms. In judiciously selected cases the results are quite as good as are obtained with most other surgical procedures.

Dr. Henry Noyes, of New York, had no faith in spirit-level estimations of hyperphoria. These vertical deviations of the visual axes are frequently due to asymmetrical development of the bones of the face and orbit. He had in former years employed both prisms and tenotomy to remedy considerable degrees of vertical insufficiency, but without ultimate benefit. He was not willing to operate in any case in which there was not a distinct surplus of power in the muscle the tendon of which he proposed to cut.

Dr. Edward Jackson, of Philadelphia, confirmed the observation that, if neighboring tissues were left undisturbed, the entire division of the tendon might not have the slightest immediate effect on the ocular movements. The graduation of the effect is here secured by graduation of the incision of surrounding tissue, not by a partial division of the tendon itself.

Dr. O. D. Pomeroy, of New York, felt that he was unable to tell by inspection whether a tendon was completely divided or not.

Dr. Samuel Theobald, of Baltimore, discussed the question:

IS ASTIGMATISM A FACTOR IN THE CAUSATION OF GLAUCOMA?

He had observed that the direction of the meridians of greatest and least refraction in astigmatism determines in a marked degree the amount of asthenopia and other ill consequences. When the meridian of least refraction is vertical, or nearly so, there is more asthenopia, headache, or likelihood of pathological changes in the eye, than when it is horizontal, or nearly so. The non-asthenopic astigmatic eyes are rarely of this sort. Astigmatism in which the meridian of least refraction approaches the vertical is comparatively uncommon, and it must be regarded as a wider departure from emmetropia than the more common form. Because of the persistent effort on the part of the ciliary muscle to correct it, this variety of astigmatism is more difficult to detect than the commoner form, as the whole of it often cannot be rendered manifest at the first examination, even by the aid of a mydriatic. It was this less common, more troublesome variety of astigmatism, that the writer had, in almost every instance, found associated with glaucoma. Hyperæmia of the ciliary muscle and choroid was a common result of astigmatism, and especially of this form. It would be likely to induce an undue flow of fluid into the vitreous chamber; and if, in such an eye, the anterior drainage apparatus happened to be defective, a glaucomatous condition would be apt to result. Cases of fully developed glaucoma in which this troublesome form of astigmatism was present, and others of astigmatism, mostly of this character, in which glaucoma seemed to be threatening, were related.

Dr. Peter A. Callan, of New York, read a paper on the

TREATMENT OF ULCERS OF THE CORNEA.

Most of the ulcers occurring in young persons and children are really phlyctenules of the cornea; neglect and lid friction causing absorption and the formation of an ulcer. The treatment for these cases is the application of a salve of the yellow oxide of mercury (two to ten per cent.), between the eyelids once daily, with atropine and cocaine if necessary. Tonics, regulated diet, open-air exercise, airy sleeping quarters, coquilles of smoke glass; but no dark rooms or bandages. The ulcers, due to conjunctival inflammations, need no especial treatment, other than that applied to the form of disease causing the trouble. In gonorrhœal ophthalmia, ophthalmia neonatorum, or granular lids, we always redouble our effects when the cornea is likely to become involved, cut the outer canthus, apply leeches or ice-compresses, etc. Especial reference was made to those ulcers occurring without apparent cause, due, however, to some constitutional trouble, malaria, syphilis, etc. The treatment for these is, to find out the constitutional ailment and give the proper remedy; and, locally, to cocainize the eye, and with a piece of absorbent cotton wrapped on a holder, clean the ulcer. Then with another piece of cotton on the holder, having dipped it into a two per cent. solution of silver nitrate, swab the ulcer, trying to leave no part of it untouched with the solution. This may have to be repeated two or three times, in the course of as many days. Bathe the eye with hot water (120° to 130° F.) three times daily, for one-half hour. If much corneal irritation exists, bathe with boric acid solution, use atropia and cocaine after each bathing, and keep the eye bandaged. The point is to get a clean wound, and that is better and more safely done with silver nitrate than by any other

means known to the writer., Besides cleaning the ulcer, the silver stimulates the repair.

DR. J. O. TANSLEY, of New York, did not think that cocaine acts at all beneficially in phlyctenular disease. Eserine was of decided benefit.

DR. H. W. WILLIAMS had watched the various methods of treatment in vogue for over forty years. He had learned that even the dusting of calomel caused severe pain. He favored mild applications, and especially liked to use eserine, or, as less likely to cause painful spasm, pilocarpine.

DR. CARL KOLLER, of New York, had learned from his teacher, Arlt, that one of the principal indications in corneal ulcer was for the bandage. This was to be applied in different conditions for different reasons; some ulcers would heal under the bandage alone. Any increased secretion was, however, a positive contra-indication to the use of the bandage.

DR. W. F. MITTENDORF, of New York, thought the electro-cautery should be used on sluggish ulcers and on those which are inclined to spread rapidly.

DRS. F. M. WILSON, L. H. TAYLOR, J. O. TANSLEY, and H. W. WILLIAMS had found antipyrin of great service in relieving the pain of corneal ulcers and other painful affections of the eye.

DR. P. A. CALLAN had used the galvano-cautery extensively, it was capable of doing harm as well as good. He had seen it open the anterior chamber when not intended, and increase the size of the cicatrix by the unnecessary destruction of sound tissue. The bandage would do harm to eyes with phlyctenular disease; its use should be confined to cases of ulcer due to constitutional causes.

AFTERNOON SESSION.

DR. EDWARD JACKSON, of Philadelphia, proposed to designate by the name

MERIDIONAL ASTIGMATISM,

one of the defects of the eye now grouped under the name "normal irregular astigmatism," which it was of practical importance to study separately, viz., the variations of refraction in different parts of the same meridian, which cause the refraction of the eye to vary from the centre of the pupil to the margin. He recognized two forms of it: a positive, the more common, and resembling spherical aberration, in which the centre of the pupil was most hyperopic or least myopic, and a negative, in which the centre was the least hyperopic or most myopic. For practical purposes, it was to be recognized, and its amount determined by the shadow-test, with which it caused both an erect and inverted image of the retinal light area to be seen at once, from the neighborhood of the point of reversal. The defect was of practical importance, on account of the uncertainty it sometimes caused in the results of testing for ametropia with test-lenses, on account of the difference in the correcting glass required when the pupil was contracted from that required when it was dilated, and because of its occasional influence on visual acuteness.

THE NUMBERING OF PRISMS ACCORDING TO REFRACTIVE POWER.

The Committee appointed at the annual meeting to consider this subject, consisting of Drs. Edward Jackson, S. M. Burnett, and H. D. Noyes, made a report recommending the adoption of the following propositions:

1. Prisms ought to be designated by the number of degrees "minimum deviation" they produce.

2. Where intervals of less than one degree are desired, half degrees and quarter degrees should be used.

3. To indicate what degrees of deviation are meant the letter "d" shall be added. Thus "prism 2° d." will indicate a prism that produces a minimum deviation of two degrees.

ACUTE COCAINE CONJUNCTIVITIS.

DR. W. F. MITTENDORF, of New York, thought that undesirable effects, due to its use by persons with an idiosyncrasy toward it, were to be expected with cocaine as with other drugs. He reported three cases, in which its use caused violent acute conjunctivitis, with tense swelling of the lids and profuse acrid muco-purulent discharge. Two of the patients were elderly women, in one of whom there was eczema of the lids, and a return of the conjunctivitis on resuming the use of the drug. The third case was that of a man who had three successive attacks brought on by the instillation of different samples of cocaine.

DR. JOHN GREEN, of St. Louis, had observed that eyes intolerant of other mydriatics were similarly affected by cocaine. He had seen great hyperæmia caused by its continued use.

DR. E. JACKSON found that cocaine very frequently caused subsequent hyperæmia, usually culminating three or four hours after its application, and frequently attended with discomfort and smarting. He had seen very serious damage to the cornea from the use of cocaine at short intervals in conjunctivitis; and on that account would never place it in the hands of a patient for the relief of constant or frequently recurring pain.

DR. W. W. SEELY, of Cincinnati, had noticed that when the conjunctiva was liable to be irritated by mydriatics, it was similarly sensitive to the contact of other alkaloidal solutions.

EXHIBITION OF APPARATUS.

DR. J. OSCROFT TANSLEY exhibited a box with glass sides, with lenses and screens, into which the light of a magic-lantern could be thrown, and the course of the rays made evident by filling the box with smoke. This was for demonstrating the facts of refraction to students.

DR. SWAN M. BURNET, of Washington, exhibited the Javal ophthalmometer, and a disk of lenses for use in testing refraction by the shadow-test. This disk was adjustable for different heights, and could be swung back against the wall, to which it was attached, when not in use.

BLEPHAROSPASM.

DR. CARL KOLLER, of New York, regarded this as a symptom arising from different conditions. Cases might be classed under three heads, viz.: the neurotic, the hysterical, and the reflex. The last class was the one he wished to speak of particularly. The condition was often kept up by a small fissure near one canthus, usually the outer, and resembled the spasm of fissure of the anus. This spasm could be stopped, and the fissure allowed to heal by cutting the muscle, but for the eye this was rarely necessary. It was commonly sufficient to treat the cor-

neal or conjunctival trouble, which was the original cause of the reflex spasm, to cauterize the raw surface of the fissure with blue-stone, giving it a chance to heal under the protection of the coagulum formed, and to apply an ointment of yellow oxide of mercury to the lids. In these cases cocaine gave but little relief, and only when applied in considerable quantities.

CASE OF MONOCULAR NEURO-RETINITIS.

DR. R. H. DERBY, of New York, reported the case. It occurred in a young girl, with a history of syphilis in her father, but no previous manifestation of a taint in herself. It began with a dimness of vision, and central scotoma, quickly followed by optic neuritis. The swelling of the papilla increased until it reached 7 D., and light perception was lost. But under the use of large doses of potassium iodide and mercurial inunctions the swelling was reduced, and vision returned and improved until it reached seven-tenths of the normal.

EXTRACTION OF THE DISLOCATED LENS WITH THE AID OF THE BIDENT.

DR. OREN D. POMEROY, of New York, reported five cases, all giving satisfactory results, including fair vision. The bident, devised by the late Dr. C. R. Agnew, seeemd not to have come into general use, although those who had tried it liked it very much. The patient was to be kept face downward until the lens was in the anterior chamber, ether given, and before placing the patient on his back the bident introduced, taking care not to press the lens too firmly against the cornea. The corneal incision was then to be made and the lens extracted with a sharp hook, or lens scoop. The writer recommended the use of the bident, in the extraction of the dislocated lens, as safe and effectual in preventing the return of the lens to the deeper parts of the eye.

Adjourned.

AMERICAN OTOLOGICAL SOCIETY.

Special Meeting, held at Washington, September 18, 1888.

(Specially reported for THE MEDICAL NEWS.)

THE PRESIDENT, DR. J. S. PROUT, of Brooklyn, called the Society to order and stated that as the meeting was held solely for the consideration of scientific matters, all members of the profession present were invited to seats with the Society and to join in the discussions.

DR. S. O. RICHEY, of Washington, read a paper on

THE PRIMARY PHYSIOLOGICAL PURPOSE OF THE MEMBRANA TYMPANI.

From a study of the anatomical development of the ear, from the lower to the higher forms of life, the writer concluded: 1st. The primary purpose of the tympanic membrane is that of protection to the tympanic cavity from the evaporating influence of the air. 2d. Being necessary for the protection of the cavity it is modified into part of a transmitting mechanism, a secondary physiological purpose. 3d. A permanent opening of the membrane may temporarily improve hearing, but is harmful to the ultimate condition of the organ. 4th. The tendency of the membrane to heal is an effort on the part of nature to preserve the function of hearing from the effects of disease, or ill-advised surgical interference.

DR. GORHAM BACON, of New York, reported a case of

CEREBRAL ABSCESS, FOLLOWING EXTENSIVE NECROSIS OF THE TEMPORAL BONE; OPERATION; DEATH FROM SECONDARY HEMORRHAGE; AUTOPSY.

A man of thirty, with a history of good general health, but a purulent discharge, of two years' standing, from the left ear, was first seen September, 1887. Small polypi and granulations were removed, but it was difficult to keep open a proper channel for drainage, and there was extensive necrosis with the formation of a large sinus. In December there was pain. January 10th, there was left facial paralysis, and at the last of the month an abscess was opened above and back of the ear, which was found to communicate with the sinus leading up and forward from the meatus. A drainage tube was introduced and the track kept washed out with a solution of mercuric bichloride. March 7th, after doing well, he complained of great pain in the forehead and neck, became very restless, with temperature of over 102°, and aphasia so complete that his only response was "Yes, sir." Next day there was a boggy swelling over the left malar bone and eyelids. Dr. R. F. Wier now saw the case. An opening was made over the mastoid, but no trouble was found there. The sinus was then opened, the temporal muscle being divided, exploration with the finger revealed a pulsating tumor toward the base of the brain, which was opened, yielding a half ounce of pus. Next day he was better, but at the end of forty-eight hours grew more stupid. A counter-opening was then made over Broca's convolution. No pus was found, but a drainage tube was introduced and passed through the brain-substance to the other opening. Again his condition improved, but secondary hemorrhage, due to injury of the middle cerebral artery by the introduction of the tube, proved fatal forty-eight hours later.

SUPPURATIVE OTITIS WITH METASTATIC IRIDO-CHOROIDITIS, WITH ABSCESS OF THE NECK.

DR. O. D. POMEROY, of New York, reported the case. The patient, a man of fifty, was first seen for iritis with adhesions, which became general; and were followed by pus in the anterior chamber. In spite of an opening through the cornea the pus from the vitreous chamber penetrated the upper part of the sclera and the upper lid. The globe was enucleated. For some months the man had complained of great soreness of the side of the neck with some swelling. After loss of the eye these increased and deep fluctuation was detected. An incision gave exit to four ounces of pus, and at the same time pus was made too well up from the external auditory meatus. After this recovery was rapid. He had a history of suppurative otitis months before, but had believed himself entirely cured of it for some time.

DR. C H. BURNETT, of Philadelphia, read a paper on

CHRONIC PURULENT INFLAMMATION OF THE TYMPANIC ATTIC,

based on notes of the disease, additional to ten cases already published elsewhere. The chief obstacle to cure in these cases is the limited drainage through the membrana flaccida above the short process of the malleus, where the perforation in such cases is usually seated. The drainage is further retarded by the fact that the dis-

ease is in and about the head and body of the malleus and incus, and then acts as a dam to the free outflow of matter. This in turn decomposes, keeps up the disease, and renders the patient liable to intracranial abscess or general pyæmia.

In the treatment the chief considerations, therefore, are cleansing and draining this upper cavity of the tympanum. This is best done by injection, by means of the tympanic syringe, of peroxide of hydrogen, carbolic acid solutions from three per cent. to five per cent., and by enlarging the perforation and exposing the attic, either by scratching off some of the edge of the margo tympanicus, or by excision of the membrana tympani, and removal of the ossicula—*i. e.*, the malleus and the incus.

EXCISION OF THE DRUM-HEAD AND OSSICLES FOR THE CURE OF CHRONIC PURULENT INFLAMMATION OF THE ATTIC OF THE TYMPANUM.

DR. SAMUEL SEXTON, of New York, found most cases of persistent otorrhœa to be of this class. The striking advances in joint surgery, by removal of diseased tissue, antisepsis, and free drainage, had led him to attempt a similar treatment of these cases, which also presented chronic inflammation, bone disease, and very imperfect drainage. In such cases the best results by other modes of treatment left the tympanum greatly altered, the hearing very imperfect, the discharge constantly liable to recur, and if, as was very likely, obstructed, to cause painful inflammation with danger of extension toward the brain. An experience of three years convinced him that much was to be hoped from excision, both as to permanent relief and safety and improvement of hearing.

THE EMPLOYMENT OF BORIC ACID, IN SOLUTION, IN THE TREATMENT OF OTITIS MEDIA SUPPURATIVA.

DR. SAMUEL THEOBALD, of Baltimore, stated that in the ordinary cases of chronic suppurativa otitis media, in which there is usually extensive destruction of the drum-head, he uses boric acid, in powder, applying it by means of insufflation; but in acute cases, and in chronic cases in which the destruction of the drum-head is not extensive, and in which a closure of the perforation may be anticipated, he prefers to use a saturated solution of boric acid. The advantages which he claims for the solution, in such cases, are, that the healing of the perforation in the drum-head is more certain to be brought about when it is used than when the powder is employed, since the latter, by too suddenly drying the ear, and also by its mechanical action, frequently prevents the restoration of the membrane; that in acute cases it is safer, as it cannot obstruct the free escape of discharge from the middle ear, as the powder sometimes does; and that it can be applied more effectually than the powder can by unskilled hands. In his own practice no serious consequences had ever resulted from the application of boric acid powder to the ear; but reference was made to the three fatal cases of suppurative inflammation of the middle ear reported by Dr. Gruening, in which the fatal result was attributed to the introduction, in two of the cases, by packing, in the other by insufflation, of boric acid powder into the auditory canal. The strength of the solution which he commonly employed is fifteen grains to the ounce. If the discharge is profuse, the ear is syringed with this three times a day, and less frequently as the otorrhœa declines. In office practice it is more convenient, after having cleansed the ear by means of the syringe or cotton holder and the Politzer bag, to instil the boric acid solution (saturated) with a pipette.

NASAL DIFFICULTIES IN EAR DISEASE.

DR. J. O. TANSLEY, of New York, said that he had for years recognized the intimate connection between nasal and ear diseases. The latter are caused by partial or complete occlusion of one or both nostrils by hypertrophies, deviated septum, etc., which prevent the expulsion of abnormal secretions and the desiccating effect of the air passing over the normal mucous membrane. Hypertrophied tissue on the lower posterior aspect of the inferior turbinated bone may cause accumulation, although the passages are quite sufficient for purposes of respiration. Hypertrophies pressing directly on and irritating or occluding the Eustachian tubes, are certain to cause ear disease; and bands of tissue, apparently cicatricial, in the pharynx, must be divided. Hypertrophy of the posterior wall of the pharynx sometimes causes complete occlusion. Atrophic rhinitis, with patulous Eustachian tubes, or simple secretive catarrhs may cause trouble. The indications for treatment were: 1. To combat the blood dyscrasia or catarrhal diathesis. 2. To cure the catarrhally inflamed mucous membrane, and restore its normal function. 3. To free the nasal and naso-pharyngeal cavities from all obstruction and encourage nasal breathing. To remove hypertrophies he commonly employed the snare, avoiding the galvanocautery, in these cases, for fear of starting up a suppurative process in the middle ear, which was commonly irritated and full of secretion. In the after-treatment recourse was had to sprays, mild solutions of silver nitrate, and tannin and glycerin.

DR. CLARENCE J. BLAKE, of Boston, then read a paper on

THE INFLUENCE OF THE USE OF THE TELEPHONE ON HEARING POWER.

This influence must be injurious because the extremely low intensity, as demonstrated by experiment, of the sounds to be caught from the telephone compelled a strain of the ear which soon fatigued it and made it especially liable to injury by the accidental sounds of comparatively high intensity, which were constantly liable to be heard.

DR. C. H. BURNETT said he had seen several patients who believed that the continued use of the telephone had impaired their hearing.

DR. O. D. POMEROY gave the case of a patient who said the use of the telephone fatigued her very much, and she thought had made her decidedly worse.

CORRESPONDENCE.

CONGRESS NOTES.

(*From our Special Correspondent.*)

THE financial showing of the dinner to the guests of the recent Medical Congress held in Washington in September, as set forth in the printed circular from the Chairman of the Committee of Arrangements, is very satisfactory and must be a cause of congratulation to those who participated. There were one hundred and forty-one

actual subscribers, who paid in full $20, and thirty-one guests. The actual cost of the dinner to each subscriber was $12.23, leaving a surplus Dinner Fund of $1095.80, thus allowing a rebate to each subscriber of $7.77. This surplus fund will be held and invested, with the consent of the subscribers, to be put to a similar use in 1891. The Chairman also states that the expenses incurred by the Committee have been paid in full without any demand on the treasury of the Congress.

As Washington is to be the triennial meeting place for the Congress, future Committees of Arrangements would do well to look carefully after the comforts of their visitors regarding two important adjuncts, viz., hotel accommodations and proper treatment by the railroads. With regard to the hotel accomodations there seems to have been considerable unfavorable criticism. Washington is peculiarly situated in this respect; it has become a show place, and is filled periodically with excursionists; these excursionists are billeted, as it were, upon the hotels—that is, with their excursion tickets they frequently receive hotel coupons, receiving accommodations at a reduced rate. This has demoralized all the large hotels, for these excursionists do not demand a high order of table or service, and the hotels take rank accordingly with those, for example, at many of our seaside resorts—which are shunned by the experienced visitor. The way to enjoy Washington, with due regard to digestion and creature comforts, is to put up at some of the smaller hotels, which are more like flats and receive transients, or are conducted upon the European plan, and to take one's meals either at the clubs or at some of the restaurants. Washington will be found to provide both, and quite satisfactorily. After all, the man who lives in another city with his home comforts around him, had better try his own hotels under similar circumstances, and see if by that means he cannot take off a little of the sharp edge of criticism. Those who have gone from Washington to some of its neighboring cities to medical and scientific congresses, have also their side of the story to tell.

With regard to the accommodation from railroads in reduced fare, etc., decided measures should be taken to correct evils which have grown up, from a want of good faith somewhere. Take, for instance, the experience of the Committee of Arrangements at this Congress. Application upon application was made to the Chairman for his signature to certificates of attendance upon the Congress, from people who made no pretence of being medical men or of having the slightest interest in the Congress. They were informed by agents that they could procure these tickets during the session of the Congress, and return at reduced rate by obtaining this signature. Consequently they were thrown out of their chances and had to pay full rates both ways, when they might have saved a few dollars by procuring a round trip ticket. These facts tell their own story, that in the past such an evasion of the rules was an understood thing, and also explain, while they do not mitigate or excuse, the action of some companies in refusing, or making the obtaining of rebates so troublesome and vexatious to members, as to cause much indignation and feeling against these companies. It is time that a decided expression of opinion should be had in this matter, and future Committees of Arrangements for similar purposes should protect themselves and their visitors against annoyances and mortification. The rebates, after all, are in many cases but a small matter; the visitor will take advantage of them, as a matter of course, if offered to him, but he would rather pay the price twice over than to be subjected to such annoyances and looked upon with suspicion. Let there be a thorough, honest understanding, or let the whole matter alone.

Washington, October 1, 1888.

STERILIZED MILK.

To the Editor of The Medical News,

Sir: In The Medical News of July 7th, page 12, Dr. Baruch states that milk steamed as advised by Dr. Rotch and myself is not sterile, and that the test taken by us was the failure of the milk to turn sour. Deeming the subject of a pure milk supply one of great importance, not only to infants, but also to adults, both in prophylaxis and treatment, I desire to make a few remarks on Dr. Baruch's treatment.

In the first place, neither Rotch (*Archiv. Pediat.*, August, 1887, p. 4) nor Jeffries (*Amer. Journ. of Med. Sciences*, May, 1888, p. 496) claimed that one steaming made milk sterile; it may, or may not, as I proved. Owing, however, to the very small number of spores capable of resisting a temperature of 212° F. occurring in milk as delivered, the number of bacteria in steamed milk is practically nil. From such milk the child will obtain fewer bacteria than from the mother's nipple.

The objection that this milk may not be absolutely sterile may, therefore, in a question of practice, not theory, be discarded as a bogle. So long as babes continue to put everything into their mouths and suck their toes, no mother need lay awake from fear of the few bacteria her fond child has taken in steamed milk.

In order to keep the milk for a long time, it must be steamed on three successive days. This does sterilize it, as experience in bacteriological laboratories, the world over, shows. It is an easily prepared and almost universal fluid medium for the growth of pure cultures. Any complicated apparatus to super-heat milk is unnecessary, expensive, impracticable; to place it, contained in an ordinary flask, in a cooking steamer for fifteen or twenty minutes is neither one of the three.

In closing, I would remark that if Dr. Baruch will reread my article he will find that I did not take the fact that such milk failed to turn sour as evidence of sterility. On the contrary, I made a count and reported at length the number of bacteria found by the plate method *after one steaming*.

Were the question a personal one I should have passed it by, but believing that thousands of lives can be saved, and many thousand cases of disease avoided by steaming the milk as advised, it seems to be simply duty to defend the method against careless stricture, while standing ready to try to remove any solid objections that may be raised.

Yours, etc.,

J. Amory Jeffries.

91 Newbury Street, Boston.

GALL-STONES IN A GIRL FIFTEEN YEARS OLD.

To the Editor of The Medical News,

Sir: On the 26th of September, 1888, I made a post-mortem examination of a mulatto girl, fifteen years old, who had died of typhoid fever.

I found in the gall-bladder forty-two gall-stones, about the size of small peas, the surface a pale yellow, of a greasy feel, and with irregular, club-shaped prominences; the body of the stone brownish. The gall-bladder was normal. No history of biliary colic.

Gall-stones at so early an age are so rare that this case seems to me worthy of record.

D. S. LAMB, M.D.

ARMY MEDICAL MUSEUM,
WASHINGTON, D. C.

NEWS ITEMS.

Disinfecting Letters.—The terrible scourge of yellow fever which is making such havoc in Jacksonville, Florida, is not from present appearances likely to spread outside of the district to which it is now confined. Rigid quarantine provisions are enforced in all directions around the unfortunate city, and personal access to the outside world is practically impossible to its inhabitants. Neither is there cause to fear infection being communicated through the mail. Letters from the stricken section are fumigated in a novel way, so that there is little or no chance for the disease being brought northward. The letters are all stopped when they reach the quarantine lines. Each letter is put under a machine with a long arm attached, and this is provided with little teeth punctured at the ends. A powder that is used for fumigating purposes is forced through the arm and down through the teeth. The arm comes down on each letter, and while the little teeth are perforating the letter the powder is blown in between the sheets, disinfecting the letter thoroughly. Then it is forwarded to the person to whom it is addressed. Some complaint has been heard of damage to letters, but so long as they remain legible a little disfigurement should be welcome as a proof of protection.—*American Analyst*, September 15, 1888.

NOTES AND QUERIES.

"CEREBRAL LOCALIZATION."

To the Editor of THE MEDICAL NEWS,

SIR: One of the speakers on "Cerebral Localization," before the late Congress, fell into an error that implies want of correct information, and might, indeed, be considered an inhospitable act.

In the course of the discussion in question, it was said that we owe to Putnam the discovery of the fact that irritation of the subjacent white matter causes the same results as when the gray motor areas above are excited. Now, it was Dr. J. Burdon-Sanderson who announced this in a communication to the Royal Society, a few weeks after Dr. Ferrier's paper had appeared. This was in 1874.

Very truly,

ROBERTS BARTHOLOW, M.D.

PHILADELPHIA, September, 1888.

TASTELESS PREPARATION OF IRON.

To the Editor of THE MEDICAL NEWS,

SIR: Will you kindly oblige an old subscriber by giving me a description of, or a formula for Creuse's tasteless preparation of iron, recommended by Bartholow (see page 135, *Materia Medica and Therapeutics*, ed, of 1888) as the most convenient form for the administration of the tincture of the chloride.

I have been unable to find any information on this point from sources at my command, and an answer will be thankfully appreciated.

Respectfully yours,

O. D. DOANE, M.D.

THE DALLES, OREGON, Sept. 10, 1888.

[Creuse sought to remove the styptic and otherwise disagreeable taste of chalybeates, by the addition of an alkaline citrate. The tincture of the chloride lends itself best to this treatment. To one ounce of the tincture add about two hundred grains of citrate of potassium.—ED.]

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM SEPTEMBER 25 TO OCTOBER 1, 1888.

By direction of the President, GEORGE M. STERNBERG, *Major and Surgeon* (U. S. Army), will proceed to Decatur, Alabama, and to such other points in the infected districts of the Southern States as he may deem necessary, to continue his scientific investigations of yellow fever.—Par. 8, *S. O. 224, A. G. O., Washington*, September 26, 1888.

Under authority from Headquarters of the Army, A. G. O., dated September 22, 1888, Major Charles B. Throckmorton, and Batteries "K" and "M," Second Artillery, comprising the garrison of Jackson Barracks, New Orleans, La., will proceed at once, by sea, to New York Harbor, and, upon arrival there, will take post at Fort Wadsworth, New York Harbor. A small guard of enlisted men will be left at Jackson Barracks. *Major and Surgeon* JOHN W. WILLIAMS will accompany the troops to New York Harbor. *Major and Surgeon* HARVEY E. BROWN will remain at Jackson Barracks.—Par. 12, *S. O. 202, Headquarters Division of the Atlantic, Governor's Island, New York City*, September 26, 1888.

WHITE, ROBERT H. *Major and Surgeon* (U. S. Army).—Is granted leave of absence for one month, with permission to apply for an extension of one month.—Par. 7, *S. O. 199, Headquarters Division of the Atlantic, Governor's Island, New York City*, September 22, 1888.

By direction of the Acting Secretary of War, leave of absence for six months, on surgeon's certificate of disability, with permission to leave the Division of the Missouri, is granted EZRA WOODRUFF, *Captain and Assistant Surgeon*.—Par. 5, *S. O. 223, A. G. O.*, September 25, 1888.

By direction of the Acting Secretary of War, WASHINGTON MATTHEWS, *Captain and Assistant Surgeon*, is detailed as a member of the Army Medical Examining Board appointed to meet in New York City, October 1, 1888, by Special Orders, No. 203, September 1, 1888, from this office, vice George M. Sternberg, Major and Surgeon, hereby relieved from his detail as a member of the Board.—Par. 3, *S. O. 224, A. G. O., Washington*, September 26, 1888.

Upon the recommendation of Captain and Assistant Surgeon Daniel Weisel, Senior Medical Officer, Camp of Instruction of the Fifth Cavalry, J. VAN R. HOFF, *Captain and Assistant Surgeon*, is assigned in charge of the active operations of the Hospital Corps in that camp.—Par. 2, *S. O. 121, Headquarters Department of the Missouri, Fort Leavenworth, Kansas*, September 22, 1888.

By direction of the Acting Secretary of War, leave of absence, to include May 3, 1889, is granted GEORGE F. WILSON, *Captain and Assistant Surgeon*.—Par. 14, *S. O. 223, A. G. O.*, September 25, 1888.

The resignation of GEORGE F. WILSON, *Captain and Assistant Surgeon*, has been accepted by the President, to take effect May 31, 1889.—Par. 15, *S. O. 223, A. G. O*, September 25, 1888.

By direction of the Acting Secretary of War, the following named officers of the Medical Department will report, in person, on October 9, 1888, to the President of the Army Medical Examining Board, Army Building, New York City, for examination for promotion: BENJAMIN MUNDAY, *Captain and Assistant Surgeon*; WILLIAM O. OWEN, Jr., *Captain and Assistant Surgeon*. Upon the completion of their examination, to rejoin their stations.—Par. 15, *S. O. 225, A. G. O., Washington*, September 27, 1888.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF THE MEDICAL CORPS OF THE U. S. NAVY, FOR THE WEEK ENDING SEPTEMBER 29, 1888.

HUDSON, ADRIAN, *Medical Inspector*.—Ordered for examination, preliminary to promotion, to Medical Director.

BATES, NEWTON L., *Medical Inspector*.—Ordered for examination, preliminary to promotion, to Medical Director.

COOKE, GEORGE H., *Surgeon*.—Ordered for examination preliminary for promotion as Medical Inspector.

BRADLEY, MICHAEL, *Medical Inspector*.—Ordered as a member of the Naval Examining Board.

WELLS, HENRY M., *Medical Inspector*.—Relieved from duty as a member of the Naval Examining Board.

SIMONS, MANLY H., *Surgeon*.—Ordered to Widows' Island Naval Hospital.

HEFFENGER, A. C., *Passed Assistant Surgeon*.—Detached from Naval Hospital, Widows' Island, and wait orders.